DOCUMENT RESUME

ED 154 236	08	CE 016 091

AUTHOR	Spotts, Robert; Evenson, Jill
TITLE	Experience-Based Career Education. Evaluation of Outcomes at Three Pilot Programs, 1976-77.
INSTITUTION	Far West Lab. for Educational Research and Development, Berkeley, Calif.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	Oct 77
NOTE	247p.; For related documents see ED 143 775 and CE 016 093
EDRS PRICE	MF-$0.83 HC-$12.71 Plus Postage.
DESCRIPTORS	Academic Achievement; *Career Education; Community Involvement; Control Groups; *Conventional Instruction; Cooperative Programs; Daily Living Skills; Educational Alternatives; Educational Research; Experimental Groups; *Experimental Teaching; High Schools; High School Students; Parent Attitudes; Pilot Projects; *Program Attitudes; *Program Effectiveness; Secondary Education; Student Attitudes; Student Development; *Student Evaluation; Vocational Development
IDENTIFIERS	Experience Based Career Education

ABSTRACT

Utilizing a pre/post test design, the progress of first year Experience-Based Career Education (EBCE) students (experimental group) toward projected EBCE student outcomes was compared with that of non-EBCE students (control group) at three school sites which employ the EBCE model developed by Far West Laboratory (FWL). Also, the program perceptions of students, their parents, and community resources were examined. Several instruments were used to collect data, including The Assessment of Career Development, New Mexico Career Education Test Series, and EBCE Perceptions Survey. The program outcomes indicated that the FWL model EBCE program is adaptable to a variety of settings. The EBCE programs were supported by parents and EBCE students. In addition, community resources reported favorably on their student contacts. Student outcomes indicated that both groups progressed normally in basic skills and showed an increased level of career development activities, improved school attitudes, and improved relationships with adults. EBCE students showed gains in areas measuring activities rather than knowledge and more positive perceptions of growth than their corresponding controls. (This report includes fifty-two data tables. The appendix contains project development instruments, descriptions of other instruments, program implementation evaluation forms, forms used for documentation of data collection procedures, comparison group data at one school, and data on post-graduation student planning.) (EM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED154236

EXPERIENCE-BASED CAREER EDUCATION

EVALUATION OF OUTCOMES AT
THREE PILOT PROGRAMS,
1976-77

October 1977

Robert Spotts
Jill Evenson

FAR WEST LABORATORY FOR EDUCATIONAL RESEARCH AND DEVELOPMENT
1855 Folsom Street, San Francisco, California 94103

CE 016 091

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

EXPERIENCE-BASED CAREER EDUCATION

EVALUATION OF OUTCOMES AT THREE PILOT PROGRAMS, 1976-77

The research reported herein was performed by the FAR WEST LABORATORY FOR EDUCATIONAL RESEARCH AND DEVELOPMENT pursuant to a contract with the National Institute of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under government sponsorship are encouraged to express their professional judgment freely in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official National Institute of Education position or policy.

ACKNOWLEDGMENTS

The authors wish to acknowledge special contributions to this evaluation. EBCE staff members at Edison, Highland, and Pacific Horizons High Schools added the task of collecting pretest and posttest data from their students to their already full-time instructional duties. Al Church of the Salt Lake City School District, Charles Gordet of the Stockton Unified School District, and Larry Zander of the Fresno Unified School District each, in exemplary fashion, managed the collection of data from control group students within his district. Finally, within Far West Laboratory staff: Jim Johnson wrote several passages on model description and edited the report draft; Karen Chatham contributed valuable material on model design; Kathleen Brown-Taylor coordinated the preparation and processing of data from the pilot programs; and Sharon Taylor prepared the report manuscript.

TABLE OF CONTENTS

Page

1. INTRODUCTION 1

1.1 FWL-EBCE Model History 1

1.2 FWL-EBCE Program Description 4

1.2.1 Program Goals 4

1.2.2 Program Structure 4

1.2.3 Program Use of Community Resources 6

1.2.4 Program Activities for Career Development 8

1.3 FWL-EBCE Model Evaluation 8

1.3.1 Current Year's Focus 8

1.3.2 Previous Years' Foci 9

1.4 Content of the Report 10

2. DESCRIPTION OF THE FWL-EBCE PILOT PROGRAMS 11

2.1 Highland EBCE Program 11

2.1.1 Site and Program Characteristics 11

2.1.2 Implementation History 11

2.2 Description of Pacific Horizons High School Program 13

2.2.1 Site and Program Characteristics 13

2.2.2 Implementation History 15

2.3 Description of Edison EBCE Program 20

2.3.1 Site and Program Characteristics 20

2.3.2 Implementation History 20

3. EVALUATION PLAN 25

3.1 1976-77 Evaluation Questions 25

3.1.1 Student Outcomes 25

3.1.2 Program Perceptions and Program Outcomes 26

3.2 Methodology 27

Page

3.2.1 Instrumentation 27
3.2.2 Design 29
3.2.3 Procedures for Data Collection 33
3.2.4 Procedures for Processing Data 34

4. EVALUATION PROCESS 37

4.1 Highland High School EBCE 37

4.1.1 Formation of Groups 37
4.1.2 Composition and Comparability of Groups 38

4.2 Pacific Horizons High School 46

4.2.1 Formation of Groups 46
4.2.2 Composition and Comparability of Groups 48

4.3 Edison High School EBCE 54

4.3.1 Formation of Groups 54
4.3.2 Composition and Comparability of Groups 58

4.4 Factors Constraining the Interpretation of Data 64

4.4.1 Limited Comparability of Experimental and Control Groups 64
4.4.2 Uneven Quality of Data Collected from Students 64
4.4.3 Inadequate Instrumentation 65
4.4.4 Lack of Standardization of Evaluation Procedures Across Programs 66

5. FINDINGS OF THE STUDENT OUTCOMES STUDY 67

5.1 Career Development and Awareness 67
5.2 Personal and Interpersonal Skills 81
5.3 School-Related Attitudes 87
5.4 Basic Skills 104

6. FINDINGS OF THE PROGRAM PERCEPTIONS AND PROGRAM OUTCOMES STUDY 107

6.1 Student Information 107
6.2 Perceptions of Parents of EBCE Students 110
6.3 Perceptions of Resources 112

Page

7. SUMMARY AND CONCLUSIONS 121

7.1 Evaluation Purposes 121

7.2 Program Variations 121

7.3 Evaluation Design 123

7.4 Characteristics of Student Groups 123

7.5 Evaluation Findings 124

7.5.1 Career Development and Awareness 124
7.5.2 Basic Skills 127
7.5.3 Students' Perceptions of Content of School Program 127
7.5.4 Students' Perceptions of Personal and Interpersonal Growth 129
7.5.5 Students' Attitude Toward School and Learning 130
7.5.6 Participants' Perceptions and Outcomes 131

7.6 Conclusions 133

SELECTED BIBLIOGRAPHY i

APPENDIX A:

SECTION 1: Project-developed Instruments A-1

SECTION 2: Description of Other Instruments A-12

SECTION 3: Implementation Forms Used in Evaluation A-20

APPENDIX B: Documentation of Data Collection Procedures for Collecting Data from Students (letter) and Report of Test Administrator (form) B-1

APPENDIX C: Pacific Horizons Comparison Group B C-1

APPENDIX D: Post-graduation Planning of Students D-1

LIST OF TABLES AND FIGURES

NUMBER		PAGE
1	List of Operating EBCE Programs Based on the Far West Model (July 1, 1977)	3
2	Fidelity of the Highland EBCE Program to the FWL-EBCE Model	12
3	Highland EBCE Staff's Satisfaction With Program Processes in Critical Areas (1975-76 School Year)	14
4	Pacific Horizons Staff's Satisfaction With Program Processes in Critical Areas (1975-76 School Year)	16
5	Fidelity of the Pacific Horizons High School to the FWL-EBCE Model at Three Time Points	18
6	Fidelity of the Edison EBCE Program to the FWL-EBCE Model	22
7	Relationship between Instrumentation and Evaluation Questions Used in Comparison of EBCE and Control Student Outcomes	30
8	Relationship between Instrumentation and Evaluation Questions Used in Study of Program Perceptions and Program Outcomes	31
F1	Constructing the Control Group at Highland High School	39
9	Composition of Highland Experimental and Control Groups	40
10	Comparison of Parents' Demography for Experimental and Control Groups at Highland Based on Student Report	42
11	Amount of Paid Work Experience Reported by Highland Experimental and Control Students	43
12	Comparison of Highland Experimental and Control Group Members on Baseline Information from the Student Background Summary	44
13	Demographic Data for Highland EBCE Students Not Included in the Student Outcomes Study	45

NUMBER		PAGE
14	Composition of Pacific Horizons Experimental and Control Groups	49
15	Comparison of Parents' Demography for Experimental and Control Groups at Pacific Horizons Based on Student Report	50
16	Amount of Paid Work Experience Reported by Pacific Horizons Experimental and Control Students	52
17	Comparison of Pacific Horizons Experimental and Control Group Members on Baseline Information from the Student Background Summary	53
18	Demographic Information for Other Pacific Horizons Groups Used in the Evaluation	55
19	Comparison of Pacific Horizons Tenth-Grade Students and Comparison Group on Demographic and Baseline Variables	56
20	Composition of Edison Experimental and Control Groups	59
21	Comparison of Parents' Demography for Experimental and Control Groups at Edison Based on Student Report	61
22	Amount of Paid Work Experience Reported by Edison Experimental and Control Students	62
23	Comparison of Edison Experimental and Control Groups on Baseline Information from the Student Background Summary	63
24	Data Relating to Students' Career Exploration and Career Planning	69
F2	Graphic Presentation of Data on Students' Career Planning Activities	70
25	Data Relating to the Career Planning Knowledge of Students	72
26	Students' Plans for One Year After High School	74
27	Students' Responses to ACD Items on Developing Plans for the Future (Highland EBCE)	76
28	Students' Responses to COAC Items on Developing Plans for the Future (Pacific Horizons and Edison EBCE)	77

NUMBER		PAGE
29	Data on the Career-Related Attitudes of Students	79
30	Comparison of Student Groups on the Occupational Knowledge Test of the ACD (Highland EBCE)	80
31	Comparison of Student Groups on the Career Development Test of the New Mexico Career Education Test Series (Pacific Horizons and Edison EBCE)	82
32	Students' Responses to the Item "Name Three Ways That You Have Changed as a Result of Your School Experiences This Year".	84
33	Comparison of Student Groups on the Attitude Toward Self and Attitude Toward Others Subscales of the Student Attitude Survey	86
34	Students' Self-Report on Attitude Toward School Over Three Periods of Time	88
F3	Graphic Presentation of Students' Self-Reported Attitude Toward School Over Time	89
35	Students' Opinion of Ways That Their School Was Helpful	91
36	Ratings of Learning by Highland Students in the Areas of Career Development/Awareness, Personal and Interpersonal Skills, and Basic Skills	93
37	Ratings of Learning by Pacific Horizons Students in the Areas of Career Development/Awareness, Personal and Interpersonal Skills, and Basic Skills	94
38	Ratings of Learning by Edison Students in the Areas of Career Development/Awareness, Personal and Interpersonal Skills and Basic Skills	95
39	SOS Subscale Scores and Total Score by Groups for Last Year's and This Year's Programs	97
F4	Plot of Highland Groups Pre and Post Scores on the SOS	98
F5	Plot of Pacific Horizons Groups Pre and Post Scores on the SOS	99

NUMBER		PAGE
F6	Plot of Edison Groups Pre and Post Scores on the SOS	100
40	Pre and Post Scores of Groups on the Reading Comprehension, Arithmetic Concepts, and Arithmetic Applications Subtests of the CTBS	105
41	Students' Perceptions of Their EBCE Activities	108
42	Students' Ratings of Success of Various EBCE Activities	109
43	Credits Earned by Students Through EBCE	111
44	Parents' Ratings of Students' Change as a Result of EBCE	113
45	Parents' Ratings of the Helpfulness of EBCE to Students	113
46	Parents' Comparison of EBCE to Previous Programs of Students	114
47	Parents' Opinions of the Effectiveness of EBCE	114
48	Resources' Judgment of the Worth of Participation in EBCE	116
49	Two Items Indicating Resources' Opinions of the Worth of EBCE to Them Personally	116
50	Resources' Ratings of Activities at Their Sites	117
51	Resources' Ratings of EBCE Students and Staff	118
52	Resources' Ratings of the Availability to Students of Experiences Related to Program Objectives	120

1. INTRODUCTION

1.1 FWL-EBCE Model History

The Far West Laboratory Experience-Based Career Education* (FWL-EBCE) model has been developed and tested over a six-year period, beginning in 1971, with funds initially from the Office of Education (1971-1972) and subsequently from the National Institute of Education (1972 - present). The phases of the FWL-EBCE project have been:

1971-72: Analysis of EBCE feasibility

1972-73: Initial design and formative evaluation

1973-74: Continued development, testing, and documentation of instructional and support systems; stabilization of model

1974-75: Performance test of prototype program; final documentation begun

1975-76: Documentation completed; analysis of the implementation process

1976-77: Field test; development of implementation support materials; initiation of EBCE dissemination strategy

A prototype program, called Far West School, was operated by Laboratory staff in Oakland, California, for three school years, 1972-75. The school served as an operating version of the Far West model in which procedures and materials were developed, tested, and revised. The program was adopted by the Oakland Unified School District (OUSD) as an all-city high school, was relocated and expanded, and has been operated by OUSD personnel since September, 1975. This program, now called Far West High School, serves as a demonstration site for interested educators visiting the Bay Area.

In spring 1975, FWL began to provide technical assistance and staff training to school districts wishing to implement a program based upon the

---

*Initially, the name of the program was Employer-Based Career Education. In 1973, responding to advice from school personnel, employers, and other participants, the name was changed.

FWL-EBCE model. Some of these districts planned programs in close congruence ("high-fidelity") to the basic FWL-EBCE model; others made major adaptations or infused portions of the model into already existing programs. Five of the emerging "high-fidelity" programs have been chosen as "pilots" and have been given special attention (in the form of increased technical assistance). Three of these pilot programs (Edison High School EBCE in Fresno, CA; Pacific Horizons High School in Stockton, CA; and Highland High School EBCE in Salt Lake City, UT) have now completed their second year of operation. They are the subjects of this report. The other two pilot programs (Spectrum at McMain High School in New Orleans, LA; and Greenhouse at South Side High School in Rockville Centre, NY) have completed their first year of operation and are scheduled to be the subjects of an intensive evaluation during 1977-78.

Several EBCE programs, some incorporating interesting adaptations to the FWL-EBCE model have been implemented using varying amounts of FWL assistance; they are known as "market-demand" sites. Also, under Vocational Education Act (Part D) grant funding, several programs based upon the FWL-EBCE design were implemented during school year 1976-77.*

The EBCE programs vary in their settings: several operate as departments of regular high schools, offering either full- or part-time alternative curriculum to students; others are located as autonomous, alternative high schools where all students engage themselves full-time in the community-based curriculum. The communities in which the programs operate vary widely in their environments: inner-city, urban, suburban, and rural; black, ethnically-mixed, and white.

Table 1 lists the set of operating programs based upon the FWL-EBCE model as of July 1, 1977. For each program, there is shown its setting, the degree of fidelity that was planned, and the source of further evaluation information about the program.

---

*"Part D" programs are required to contract for objective, "third-party" evaluation. Reports from these evaluation contractors will provide additional information on EBCE.

TABLE 1

LIST OF OPERATING EBCE PROGRAMS BASED ON THE FAR WEST MODEL, July 1, 1977

Name	Location	Setting	Program Fidelity	Information Source
Far West High School	Oakland, CA	Urban	High	FWL evaluation reports 1973-76
Edison High School EBCE	Fresno, CA	Urban	High	FWL evaluation reports 1975-77
Highland High School EBCE	Salt Lake City, UT	Urban	High	FWL evaluation reports 1976-77
Pacific Horizons High School	Stockton, CA	Urban	Moderate	FWL evaluation reports 1976-77
Spectrum	New Orleans, LA	Urban	Moderate	FWL evaluation reports 1976-77
Greenhouse	Rockville Centre, NY	Suburban	Moderate	FWL evaluation reports 1976-77
Mountain High School EBCE	Ontario, CA	Suburban	Adaptation	CA Ass'n. of Work Exper. Evaluators (CAWEE) report, 1977
Walbrook Senior H.S. EBCE	Baltimore, MD	Inner City	Adaptation	Program Director
Royal Oak High School EBCE	Charter Oak, CA	Suburban	Adaptation	CAWEE report, 1977
Calumet High School EBCE	Chicago, IL	Inner City	Adaptation	Program Director
Business and Management Center	Dallas, TX	Urban	Adaptation	Program Director
St. Andrews High School EBCE	Pasadena, CA	Suburban	Adaptation	Program Director
Marina High School EBCE	Huntington Beach, CA	Suburban	Adaptation	CAWEE report, 1977
Lincoln Career Development Ctr.	Stockton, CA	Suburban	High	Program Director
Community-Based Career Education	Orlando, FL	Urban	High	FWL evaluation report 1976
Dover High School EBCE	Dover, NH	Rural	Adaptation	Program Director
Canyon High School EBCE	Saugus, CA	Suburban/Rural	Moderate	FWL evaluation report 1976
District of Columbia EBCE	Washington, DC	Inner City	High	Third-party eval. report 1977
Hall County EBCE Programs	Gainesville, GA	Urban/Suburban	High	Third-party eval. report 1977
Joliet Township EBCE	Joliet, IL	Urban	High	Third-party eval. report 1977
Sycamore Community EBCE	Sycamore, IL	Rural	Adaptation	Third-party eval. report 1977
Fairfax County EBCE	Falls Church, VA	Suburban	Adaptation	Program Director

1.2 FWL-EBCE Program Description

1.2.1 Program Goals

During the early feasibility studies, five program goals were defined for EBCE:

1. It should represent a viable, comprehensive alternative to other secondary programs;
2. It should make education more relevant to life in general and to adult employment in particular;
3. It should integrate the general, academic, and occupational preparation of the student;
4. It should broaden the base of community participation in education, especially to include the employing sector; and
5. It should broaden the base of student participation in determining the direction and nature of the educational process.*

These goals guided the development of the FWL-EBCE model and served as the rationale for its learning processes.

1.2.2 Program Structure

Briefly, the FWL-EBCE model was designed to provide students with a comprehensive alternative to regular high school, focusing on experience-based learning in the community through projects that allow them to earn credits toward graduation while acquiring career awareness necessary to pursue their future goals. The model emphasizes one-to-one relationships with individual adults -- resource persons -- in work settings where they share occupational experience, personal knowledge and skills, and interests. The essentials of a secondary education are integrated with career preparation through a series of planned, personalized learning experiences in a wide variety of life and work settings.

---

*Paul D. Hood and Bela H. Banathy. An Employer-Based Career Educational Model: A Description and Operating Plan (San Francisco: Far West Laboratory for Educational Research and Development, January 31, 1972), p. 85.

The individualized student project planned by the student and approved by staff is the central means of organizing student learning and awarding credit for student work. Students learn by planning, questioning, doing, and evaluating their own experiences and performance. Students learn how to learn through an inquiry process -- identifying significant questions and appropriate resources, working with people in the field supplemented by related reading, analyzing what they do and learn, and synthesizing the results in written or other products -- and through individual and group discussions with staff. Students may also pool their interests and skills in small group projects; however, credit is awarded only for the individual's contribution.

Projects blend career exploration with academic learning, enabling students to earn course credits in standard areas through community-based research, experience, and related reading and discussion. Depending on their individual needs and interests, students spend from 20 to 80 percent of their time in the community in one-to-one and small-group interactions with volunteer resource persons in a wide range of learning sites in the community.

In general, the FWL-EBCE model replaces classroom instruction in academic areas with a combination of individualized research projects and weekly seminars, during which all students working on projects in a given field broaden their knowledge of the subject by sharing their research with one another and discussing concepts, issues, methods, and recent developments in the field.

EBCE students may also enroll in regular high school or community college courses or pursue academic knowledge and skills through independent study, tutorials, or workshops offered through the EBCE program. To the extent possible, these supplementary activities are related to and build on students' field experiences.

FWL-EBCE focuses on helping students acquire skills and knowledge needed for disciplined inquiry, future planning, and community involvement: knowledge of self and of career options; communications and interpersonal skills; inquiry, problem-solving and decision-making skills; and increased understanding of significant concepts, issues, problems and methods associated with major fields of study and work. The experience-based project format undergirded by seminars allows students and staff to capitalize on the natural integration and application of these skills and knowledge in economic and social settings.

Guides (called "Project Planning Packages") provide students and staff with ideas and guidelines for developing projects that blend career exploration with disciplined inquiry in standard subject areas, and that (singly or in aggregate) are acceptable for academic credit equivalent to a semester's course work.

Using the project format, students specify questions they want to answer, goals they intend to achieve, resources and activities needed to carry them out, and how they intend to demonstrate the achievement of their goals. Student progress, needs, and interests are continually reassessed and the student is involved in replanning as necessary.

When constructing their project plans, students indicate the type and amount of credit planned, subject to the approval of their learning coordinators. Each completed project is evaluated by learning coordinators (LCs), resource persons, skills specialists, and any other designated certifiers. When a project is successfully completed, credit is assigned in the subject areas designated and entered on the official transcript.

1.2.3 Program Use of Community Resources

The FWL-EBCE model seeks both individual volunteer resource persons and commitments from resource organizations. If an individual volunteers, this contact is used as a base for eliciting organizational commitment. If an organization agrees to participate, the program seeks individual volunteers within it. In either case, the goal is to recruit individuals eager to work with students on a one-to-one or small-group basis.

Whether an arc welder or lawyer, printer or biologist, the resource person's primary role is to help students become adults, learn how to think for themselves, make responsible decisions, relate maturely to others, and plan and carry out their own learning projects.

The relationship between resource person and student is voluntary on both sides and is defined by a set of mutually understood expectations and consequences. Its scope, objectives, and duration are negotiable -- depending on the resource person's availability and the student's educational needs and interests.

Program staff members work individually with newly recruited resource persons to help them understand the underlying concepts of EBCE, its goals, and how it operates, as well as to determine with them how they can best help students. The resource person's participation in defining their own roles is a key element in preparing them to work with students.

Through informal but probing interviews, program staff work with resources to identify a range of learning activities the resource person can offer students to expand their career and self-knowledge, apply their basic skills in real-life situations, pursue research topics or issues of interest, and acquire conceptual and technical knowledge in academic and career areas. Learning activities are tailored to the resource person's interests, expertise, work, and schedule. The business administrator with a degree in political science may be willing to work with students either on business or government projects. The letter carrier who writes poetry may only be interested in sharing avocational interests. The carpenter with an avid interest in photography may be able to help students acquire skills in either area. The FWL-EBCE model capitalizes on resources' experience and expertise whether directly related to their current work situation or not.

Students select the resources they will visit and use in their projects based on their current needs and interests. On a single project, students may work with several resources at different levels of depth and duration.

The orientation level or short-term arrangement allows the student to become acquainted with resource persons and their organizations and to discover what can be learned there -- or simply to supplement research on a project where the student is more intensively involved with other resource people.

The exploration level allows the student to arrange several more visits with a resource to survey a career or area of study.

At the investigation level, which may last a full school term, students can focus on in-depth research or on mastering selected career or academic skills. At both the exploration and investigation levels, students must work with their resources and learning coordinator to develop a project plan specifying what they will do and learn, performance and prducts expected, deadlines, evaluators, and evaluation criteria.

Students are encouraged to use more than one resource on a project whenever possible. They may work with as few as three or as many as ten or more resources during a school term, depending on the number and type of projects planned.

1.2.4 Program Activities for Career Development

Through the experiential nature of the FWL-EBCE learning process, career planning and decision-making are a recurring focus of student work. During their orientation to the program, students are introduced to a process of career planning and decision-making that starts with learning about their own interests, strengths, weaknesses, likes, dislikes, and values, and recognizing that these may change with further education and experience.

Students are then helped to plan activities and gain experiences in EBCE to test their knowledge of themselves as well as to learn more about careers. They learn to analyze careers not just in terms of duties, requirements, and rewards, but in terms of the effect on one's lifestyle and congruence with one's values. In individual and group sessions, students are led to evaluate their experiences with resources in terms of what they have learned about themselves, to identify what they like and dislike about the career they have encountered, to continually reconsider their interests and personal goals, and to seek additional information and experience to aid their decision-making.

While first-hand exploration and testing of expressed interests and goals are emphasized, students are encouraged to use other sources of information (e.g., interest and aptitude inventories and published occupational information) to identify latent interests or skills and select career areas to explore.

1.3 FWL-EBCE Model Evaluation

1.3.1 Current Year's Focus

Certain outcomes are projected for FWL-EBCE students as a result of their learning experiences. These are:

1. Students will progress in career development, including career awareness and planning.
2. Students will progress in personal and interpersonal development, including: clarification of their current interests, abilities, and values; self-reliance; ability to function independently and responsibly; and ability to work constructively with others.

3. Students will develop a realistic understanding of the role of school and education in career development.
4. Students will make normal progress in development of basic skills.

The evaluation undertaken during 1976-77 was intended to collect evidence from stabilized, operating pilot programs about the effectiveness of the FWL-EBCE model in inducing these outcomes. Previous effort (1974-75) showed that FWL-EBCE students in a controlled environment (i.e., in a program operated by its developers) did demonstrate the desired outcomes. The current evaluation is to determine whether or not these outcomes are replicated in programs operated under local control.

In addition to the above student outcomes, two more general goals are projected for each pilot program:

1. The student treatment as implemented is consistent with the FWL-EBCE model; and
2. Members of participating groups (i.e., students, parents of students, and resources) value the program and feel that it enables the projected student outcomes.

1.3.2 Previous Years' Foci

Several previous evaluation efforts have been directed toward FWL-EBCE. In 1972-73, the evaluation was principally formative, providing continual feedback to program developers. Results are presented in FWL-EBCE Final Evaluation Report, FY1973. In 1973-74, a preview summative evaluation was undertaken in which outcomes were compared between small treatment and control groups. Instrument development was a major focus. Results are presented in FWL-EBCE Final Evaluation Report, FY1974. In 1974-75, a full-scale performance test was accomplished; outcomes of treatment and control groups were analyzed. As a result, the model was deemed ready for dissemination; findings are presented in FWL-EBCE Final Evaluation Report, FY1975. In 1975-76, focus was shifted to the implementation process. Problems encountered in attaining and maintaining high fidelity were noted and perceptions of students, resources, parents, and staff at newly-implemented programs were surveyed. Findings are presented in FWL-EBCE Final Evaluation Report, FY1976.

1.4 Content of the Report

Section 2 presents a brief description and history of each of the three pilot programs under study. Section 3 documents the evaluation design, instrumentation, and procedures used in the 1976-77 evaluation. Factors affecting the process of evaluation -- the student populations and other constraints -- are discussed in Section 4. The findings of the analyses of student outcomes using treatment/control groups are presented in Section 5. Section 6 presents findings not related to treatment/control comparisons. The report concludes with Section 7, a summary of the evaluation.

2. DESCRIPTION OF THE FWL-EBCE PILOT PROGRAMS

2.1 Highland EBCE Program

2.1.1 Site and Program Characteristics

Highland High School is located in a city with a population of approximately 250,000. It has an enrollment of about 1800 students and is one of four high schools in the district. The residential area served by the school is mainly middle-income, urban, and white. Highland High School EBCE is a full-time, alternative learning program for eleventh- and twelfth-grade students. Most students are drawn from Highland High School, but attendance is open to other students in the district. Its organizational structure is best described as a "school within a school"; it is physically located within a wing of the school building and (as in the basic FWL-EBCE model) the EBCE program staff is responsible for the total learning program of the students. The primary purpose is to provide an individualized secondary education complemented by career-related experiences. The staff consists of four learning coordinators (LCs), a skills specialist, and a director/resource analyst. Student enrollment was approximately 70 students during the 1976-77 school year.

2.1.2 Implementation History

Early program planning with Highland EBCE staff members established as a goal of implementation a high fidelity adoption of the FWL-EBCE model. At the end of the 1975-76 school year, a member of the Far West Laboratory training staff completed a rating of the congruence of the operating Highland program with the FWL-EBCE model. (The ratings used the scale: 0% = no congruence with FWL-EBCE, to 100% = complete congruence with FWL-EBCE.) His judgments are shown in Table 2. Note that the program as implemented in 1975-76 reflected the model very closely, except for some divergence from the model in standards established for students' learning projects and the program design for students' supplementary (non-project) learning activities. Following

TABLE 2

FIDELITY OF THE HIGHLAND EBCE PROGRAM TO THE FWL-EBCE MODEL

Dimension	Item	Fidelity Rating (%)		
		5/76	10/76	8/77
Educational Goals	Career Development	90	100	100
	Life Skills	90	100	100
	Basic Skills	90	100	100
Characteristics of Resource Pool	Diversity	90	100	100
	Willingness to participate	90	100	100
	Provision of 1:1 learning	90	100	100
	Adaptability of site activities	90	100	100
	Involvement in planning and evaluating students' projects	*	100	100
Characteristics of Students' Programs	Projects as core	90	100	100
	Involvement with community resources	90	100	100
	Standards set	30	100	100
	Supplementary learning design	25	45	100
	Peer interaction	50	100	100
	Criteria for credit	60	100	100
	Academic credit	60	100	100
Student Responsibility	Long-term planning	90	100	100
	Establishing learning objectives and activities	90	100	100
	Selecting content	90	100	100
	Setting performance criteria	90	100	100
	Selecting resources	75	100	100
	Self-evaluation	75	100	100

*Insufficient evidence to make a rating.

a site visit in October, 1976, the same staff member rated program congruence at the start of the second year of operation. These ratings, also shown in Table 2, give an estimated congruence with the FWL-EBCE program of almost 100 percent. The supplementary learning curriculum was further expanded during the fall of 1976 and, based on the FWL staff reports, is now fully congruent with the FWL-EBCE model. In the judgment of the FWL staff, the Highland High School has succeeded in implementing a high-fidelity EBCE program. Table 3 presents a summary of the information obtained. Mean ratings by staff members were at or above midpoint on the scale for every program process (indeed, only two item ratings out of the 75 were below midpoint).

It appears that the Highland staff and FWL staff have agreed on the success of the implementation process at the Highland EBCE program. In interpreting the evaluation results, the Highland EBCE program should be considered a fully operational version of the FWL-EBCE model.

2.2 Description of Pacific Horizons High School Program

2.2.1 Site and Program Characteristics

Pacific Horizons High School is situated in a small-city (population approximately 100,000) and draws an ethnically and socio-economically mixed student population. The school district has four senior high schools, each serving approximately 2000 students. Pacific Horizons is a full-time, alternative continuation high school open to students throughout the school district. It is located in a new building complex in a downtown area undergoing redevelopment. The school is an outgrowth of a district task-force study in dropout prevention and its primary function has been to provide an alternative program to keep potential dropouts in school. It was in operation during the 1974-75 school year with a workshop-oriented curriculum; the FWL-EBCE curriculum was adopted in September, 1975, on staff recommendation. Of the six professional staff members, five have been with the program for three years, the other for

TABLE 3

HIGHLAND EBCE STAFF'S SATISFACTION WITH PROGRAM PROCESSES IN CRITICAL AREAS (1975-76 School Year)

PROCESS 5-point scale: 1=not at all satisfied 5=completely satisfied	Highland EBCE Staff N=5		
	Rank	Mean	S.D.
Recruiting resources	1.5	4.8	.40
Preparing resource guides	1.5	4.8	.40
Recruiting new students	3.5	4.2	.40
Coordinating staff responsibilities	3.5	4.2	.75
Preparing students for activities with resources	5.5	4.0	.00
Maintaining resources	5.5	4.0	.63
Assessing students' skills at entry	8.5	3.6	.49
Planning students' projects	8.5	3.6	.49
Monitoring students' progress	8.5	3.6	.49
Students' long-term planning	8.5	3.6	.80
Planning students' supplementary activities	12	3.4	.49
Organizing and managing the supplementary curriculum	12	3.4	.49
Orienting new students	12	3.4	.80
Using packages	14	3.2	.75
Preparing resources for activities with students	15	3.0	.00

two years. During the 1975-76 school year, approximately 75 students were in attendance, some of them carryovers from the previous year's program. During the 1976-77 school year, enrollment was 65 with considerable turnover during the year. The end-of-year group, on whom posttest data were collected, consisted of 46 students, 16 of whom had been in attendance the previous year.

2.2.2 Implementation History

It was the original goal of the Pacific Horizons staff to implement the FWL-EBCE model fully as documented, but the staff encountered problems in implementing and operating the planned high-fidelity program.

In order to gather information about the perceptions of Pacific Horizons staff members regarding their program operations at the end of the 1975-76 school year, FWL staff asked them to rate their degree of satisfaction (1= not at all satisfied, to 5 = completely satisfied) with 15 key Pacific Horizons program processes. Table 4 summarizes the ratings given by five staff members. The data indicate that at the end of the first operational year the Pacific Horizons staff was satisfied (i.e., mean rating above scale midpoint) only with processes involving direct student-staff interaction (those activities ranked 1-5). The data also indicate that the staff was relatively dissatisfied with those processes involving staff-resource interaction (activities ranked 12-14). Finally, in its use of the Project Planning Packages (viewed by FWL-EBCE developers as a principal mechanism for assuring quality control in students' projects), staff was least satisfied.

Thus, Pacific Horizons staff felt that they had less than complete success in program implementation during 1975-76. They expressed to FWL their concerns over two likelihoods: (1) that some processes of the FWL-EBCE model unknowingly had been implemented/operated imperfectly due to Pacific Horizons staff misconceptions of the model, or educational biases; and (2) that some of the processes of FWL-EBCE must be further adapted to fit Pacific Horizons educational and social environments.

During the summer of 1976, the staff made major adaptations to the program: the inclusion of classes conducted by each learning coordinator in his/her area of expertise; elimination of resource development as the primary role of one staff member and shifting the development of resources to the learning

TABLE 4

PACIFIC HORIZONS STAFF'S SATISFACTION WITH PROGRAM PROCESSES IN CRITICAL AREAS (1975-76 School Year)

PROCESS 5-point scale: 1=Not at all satisfied 5=completely satisfied	Pacific Horizons N=5		
	Rank	Mean	S.D.
Orienting new students	1	3.8	.75
Students' planning projects	2	3.75	.43
Students' planning supplementary activities	3	3.5	.5
Students' long-term planning	4	3.25	.83
Assessing students' skills at entry	5	3.2	1.17
Coordinating staff responsibilities	6.5	3.0	.89
Monitoring students' progress	6.5	3.0	1.26
Preparing resource guides	8	2.8	1.17
Recruiting new students	10	2.6	1.36
Preparing students for activities with resources	10	2.6	1.36
Organizing and managing the supplementary curriculum	10	2.6	1.62
Maintaining resources	12	2.2	.75
Recruiting resources	13	2.0	.89
Preparing resources for activities with students	14	1.8	.75
Using packages	15	1.25	.43

coordinators; and elimination of program management as the primary role of one staff member and sharing responsibility for management among all staff members. The district commitment to bring the basic skills competences of all students up to the eighth-grade level has been a severe problem because many students enter Pacific Horizons with very low skill levels; therefore, the focus for the year was placed on basic skills instruction. However, after the fall semester, the experiment in the use of classes was discontinued because of poor attendance. In the spring, students were once again expected to complete projects in order to earn credits. Basic skills instruction was still required for those with skills below the eighth-grade level. Responsibility for resource development and use remained in the hands of individual LCs during the spring semester.

Far West Laboratory training staff rated the implementation of the Stockton program at three points: end of the first year, start of the second year, and end of the second year. The ratings are presented in Table 5. As the table shows, the degree of fidelity to the Far West model fluctuated considerably. (The ratings used the scale: 0% = no congruence with FWL-EBCE, to 100% = complete congruence with FWL-EBCE.) In the area of educational goals, it can be seen that the Pacific Horizons program has shown high fidelity to the FWL-EBCE model in its basic skills program. Emphasis on career development diminished during the fall of 1976, when students mainly attended academic classes, and increased as the program returned to a project-oriented curriculum.

The quality of the resource pool has suffered, not in terms of the breadth of its composition, but in the type of activities offered students. Fidelity of the student program characteristics dropped sharply during the fall as dependence on classes was enforced, but rose again as the project-oriented curriculum was reinstituted. However, the program still was found to diverge sharply from congruence with the model in the use of supplementary resources. In the area of student responsibility, the program has been congruent for those students doing projects during the spring semester, but not in the fall when there was little opportunity to develop projects because of the classroom setting.

From interviews with the Far West Laboratory training staff and from written reports of site visits filed by the staff, it is possible to identify several characteristics of the program, as it is operating at Pacific Horizons, that may impact on the evaluation findings:

TABLE 5

FIDELITY OF THE PACIFIC HORIZONS HIGH SCHOOL TO THE FWL-EBCE MODEL AT THREE TIME POINTS

DIMENSION	ITEM	FIDELITY RATING (%)		
		6/76	10/76	4/77
Educational Goals				
	Career Development	50	20	50
	Life Skills	60	50	40
	Basic Skills	90	90	90
Characteristics of Resource Pool				
	Diversity	60	40	60
	Willingness to participate	80	70	90
	Provision of 1-1 learning	60	50	40
	Adaptability of site activities	80	30	40
	Involvement in planning and evaluating students' projects	40	20	20
Characteristics of Students' Programs				
	Projects as core	50	20	80
	Involvement with community resources	50	20	60
	Project standards	30	-	50
	Supplementary learning design	40	40	0
	Peer interaction	40	30	45
	Criteria for credit	30	-	40
	Academic credit for projects & experiences	90	20	100
Student Responsibility				
	Long-term planning	50	-	90
	Establishing learning-objectives and activities	80	-	80
	Selecting content	80	20	80
	Setting performance criteria	70	20	80
	Selecting resources	90	20	80
	Self-evaluation	60	-	40

1. The low level of basic skills development of this year's enrollees has had an effect on both student and staff activities. The school has a strong commitment to improve basic skills in its students -- all students who test below the eighth-grade level in reading or math are required to enroll in basic skills classes. Giving this instruction has required the full time of one staff person and half time of another, thus reducing the amount of staff time for EBCE community activities. Because of the open enrollment policy, planning for basic skills instruction has been difficult in that the number of students with basic skills deficiencies in the program can vary widely over time. The basic skills instruction is not self-motivated, but required, and is not related to development of projects or other EBCE activities. Although the FWL-EBCE model is considered to be suitable for students with basic skills deficiencies, it is difficult for such students to participate fully and requires heavy investment of staff time. The approach at Pacific Horizons stresses attempting to improve basic skills first -- getting students "ready" for EBCE participation.

2. There has been instability in the planned program structure during the year. The emphasis on classes during the fall was changed to a project-oriented curriculum during the spring. Students who remain in the program find it changing from one semester to another.

3. There is no differentiation among staff roles. Management functions are shared and management decisions are handled by a group decision-making process. However, each staff member is able to operate independently of the staff group and the program offered to students may vary from one LC to another.

4. There has been (a) inadequate resource development/maintenance and progress monitoring by LCs, and (b) a shift in program emphasis away from in-depth community involvement. Each LC has been responsible for the development and maintenance of resources used by his/her group of students. There are differences in the degree of interest shown by LCs in developing resources. Also, LCs seldom visit resources either to monitor student progress or to maintain resource interest in the program.

5. There has been considerable turnover in students during the school year. For example: of the original group of 35 new students enrolled in September, 1977, only 13 remained at the end of the year.

2.3 Description of Edison EBCE Program

2.3.1 Site and Program Characteristics

Edison High School is located in a city with a population of approximately 300,000. Edison is one of six high schools which have a collective enrollment of some 12,000 students. The school is located in a low-income, mainly black neighborhood. The Edison High School EBCE program operates as a department of the high school, and offers a full- or part-time alternative program for tenth- through twelfth-grade students. EBCE students use the basic skills laboratory available through Edison High School, and can also enroll in other courses in the regular curriculum while participating in the EBCE program.

A major purpose of Edison EBCE is to act as a magnet program for students in other schools in the district. A restriction placed on EBCE recruitment during the first year was that the number of Edison students enrolled should not exceed the number of students drawn from other high schools. This recruitment emphasis has resulted in an enrollment with a majority of white students; thus, the program is helping fulfill the district desegregation objective.

The staff of the program during the 1976-77 school year consisted of a department chairperson, a resource analyst, and four learning coordinators (some only part-time in the program). One characteristic of the Edison EBCE student has been the relatively easy entrance into and exit from the program. The Edison High School uses a system of "quinmesters" -- short, nine-week terms. Most students have remained in the program for no more than two quins. At any one time, about 68 students were enrolled in the program.

2.3.2 Implementation History

Initial training of staff was provided in spring, 1975. The EBCE program operation began the spring quinmester and continued through the summer and the 1975-76 school year. Additional on-site technical assistance was provided by FWL throughout the 1975-76 school year as requested by Edison EBCE staff. Contact was maintained with the site through the 1976-77 school year.

The Edison program was planned to incorporate minor adaptations within a high-fidelity model. One such adaptation was the use of the regular school program to provide supplementary learning experiences. Another was a relatively short enrollment period for students -- some staying for only one nine-week quin.

At the end of the first year of operation, FWL staff members who assisted the Edison staff in implementation rated the congruence of this program with the FWL-EBCE model. Table 6 shows the means of the two sets of ratings. During 1975-76, the Edison program deviated substantially from the FWL-EBCE model on two dimensions: educational goals (relatively low emphasis on career development and development of life skills); and the characteristics of students' learning programs (supplementary curriculum provided outside EBCE program and few group seminars). On the other two dimensions, only one item rating is below 50%; "resources' involvement in planning and evaluating students' projects" was perceived as absent in the program. The program was judged to provide a fair representation of the FWL-EBCE model on those two dimensions at the end of the first operational year.

In May, 1977, one FWL training staff member rated the congruency of the Edison EBCE program with the FWL-EBCE model. These ratings are also shown in Table 6. The degree of congruence with the FWL-EBCE model markedly increased during the second year of operation. The program is now a high-fidelity representation of the FWL-EBCE model. Low congruence was found in the use of supplementary curriculum (a planned variation) and in peer interaction (the use of project seminars had not been instituted).

The FWL staff was also asked to rate their degree of satisfaction with the program's operation in 15 areas. The mean rating for 13 areas rated by one staff member (areas related to supplementary curriculum were omitted) was 4.0 on a five-point scale with no rating below 3.0 -- indicating a high degree of confidence in the operating program.

Information culled from FWL staff reports on Edison EBCE indicate that the program has become noticeably better managed and more stable during the past year. Quoting from the June, 1977 report: "The staff are more confident of their understanding of FWL-EBCE and their ability to make minor adaptations to meet local needs. They have refined their modification of student orientation. Packages are being more consistently and more effectively used as standards for project planning and evaluation. Members of the staff have identified their areas of expertise and are assuming appropriate duties and responsibilities. . . ."

TABLE 6

FIDELITY OF EDISON EBCE PROGRAM TO THE FWL-EBCE MODEL

DIMENSION	ITEM	4/76	5/77
Educational Goals	Career Development	35	80
	Life Skills	25	100
	Basic Skills	75	70
Characteristics of Resource Pool	Diversity	50	90
	Willingness to participate	50	100
	Provision of 1:1 learning	70	90
	Adaptability of site activities	60	100
	Involvement in planning and evaluating students' project	0	70
Characteristics of Students' Programs	Projects as core	30	100
	Involvement with community resources	20	100
	Standards set	20	90
	Supplementary learning design	0	0
	Peer interaction	10	35
	Criteria for credit	20	80
	Academic credit	75	100
Student Responsibility	Long-term planning	50	90
	Establishing learning objectives and activities	50	100
	Selecting content	70	100
	Setting performance criteria	60	100
	Selecting resources	80	100
	Self-evaluation	80	100

The TAT staff also had some negative observations. Project seminars were not conducted; resources were not contacted regularly by LCs and maintenance of resources was not well organized; and support staff were not being used effectively.

The evaluation of the Edison EBCE program may be affected by certain program characteristics:

1. Students may be only part-time in the program and may not stay in the program for the full year, lessening the opportunities for program effect.

2. The supplementary curriculum, including basic skills instruction, is outside the EBCE structure. It cannot be determined to what extent student change in the basic skills is related to the Edison EBCE supplementary program and to what extent it is attributable to specific EBCE activities.

3. The magnet function of the school -- bringing in of students from other locations -- may have an effect on student attitudes toward school, particular toward peers.

3. EVALUATION PLAN

3.1 1976-77 Evaluation Questions

3.1.1 Student Outcomes

The current evaluation had the primary aim of assessing student outcomes. The major study compared the progress of first-year EBCE students with that of non-EBCE students toward the four projected student outcomes of EBCE in terms of the following questions.

1. Students will progress in career development, including career awareness and planning.

   Questions Addressed:

   A. Did EBCE students engage in more career exploration and career planning activities than did non-EBCE students?

   B. Did EBCE students learn more about career planning than did non-EBCE students?

   C. Did EBCE students progress more during the year in developing plans for the future than did non-EBCE students?

   D. Did EBCE students develop more positive career-related attitudes than did non-EBCE students?

   E. Did EBCE students gain more occupational knowledge than did non-EBCE students?

   F. Did EBCE students gain more knowledge and appreciation of what is required to hold a job and to be advanced in an occupation than did non-EBCE students?

2. Students will progress in personal and interpersonal development, including: clarification of their current interests, abilities, and values; self-reliance; ability to function responsibly and independently; and ability to work constructively with others.

   Questions Addressed:

   A. Did EBCE students report more changes in personal growth (such as self-reliance) and in interpersonal skills than did non-EBCE students?

B. Did EBCE students develop a more positive attitude toward self and others than did non-EBCE students?

3. Students will develop a realistic understanding of the role of school and education in career development.

   Questions Addressed:

   A. Did EBCE students have a more positive attitude toward school and learning than did non-EBCE students?

   B. Did EBCE students rate their school program as more helpful to them personally than did non-EBCE students?

   C. Did EBCE students feel that they learned more in their program about careers, getting along with other people, problem-solving, and basic skills than did non-EBCE students?

   D. Did EBCE students feel that their program provided more opportunity for autonomy than did non-EBCE students?

   E. Did EBCE students feel more positive about peer and staff relationships than did non-EBCE students?

4. Students will make normal progress in development of basic skills.

   Question Addressed:

   Did EBCE students progress in basic skills at a rate at least equal to the rate of progress of non-EBCE students?

3.1.2 Program Perceptions and Program Outcomes

In addition to the comparison of first-year EBCE students and non-EBCE students, a secondary study examined the perceptions of all current EBCE students, their parents, and participating resources at the three sites. Information related to program outcomes was also collected from the school files. The following questions were addressed in this study:

1. Did students like the program?
2. Did students feel the program functioned well?
3. Did students earn normal amounts of credit toward their graduation?
4. Did parents like the program and feel that it benefitted the student?
5. Did resources value participation in the program?
6. Did resources feel that the program functioned well?

3.2 Methodology

3.2.1 Instrumentation

The student outcomes evaluation made use of published tests, other externally developed measures, and instruments that had been developed by the FWL-EBCE staff. In Spring, 1976 FWL evaluation staff surveyed the published tests available in the area of career development. No test could be found whose items reflected the experiential focus of FWL-EBCE. Two measures were selected for use in this evaluation, the Assessment of Career Development and the New Mexico Career Education Test Series. The items in these tests were judged to be most nearly consistent with the activities and objectives of FWL-EBCE; however, the items in these two tests generally assume classroom-based activities and learning rather than the community-based activities of FWL-EBCE.

The Assessment of Career Development (ACD). Areas covered by the instrument include occupational knowledge, exploratory occupational experiences, career planning knowledge, and career planning involvement. This instrument is lengthy -- it requires 125 minutes to complete. Although it was the instrument of FWL's first choice, only one site, Highland, used the instrument.

New Mexico Career Education Test Series. Three tests from this series were chosen: The Career Oriented Activities Checklist (COAC); the Career Planning Test (CPT); and the Career Development Test (CDT). These tests have the advantage of brevity and facility of administration. Each test is in a separate booklet and takes no more than twenty minutes to complete. Two sites, Pacific Horizons and Edison, used the New Mexico tests.

Comprehensive Test of Basic Skills (CTBS). This test was used to measure growth in basic skills. Three subtests were used: Reading Comprehension, Arithmetic Concepts, and Arithmetic Applications. The total time required for these subtests is 59 minutes.

Student Attitude Survey (SAS). This instrument was developed by Research for Better Schools and used extensively with students in the RBS model of EBCE. Three SAS scales were used in the evaluation: Scale 2, which measures attitudes toward careers; Scale 3, which measures attitudes toward self; and Scale 4, which measures attitudes toward others. The portion of the SAS administered consists of 54 statements each to be rated on an agree-disagree scale. The instrument takes about 15 minutes to complete.

The remaining instruments used in the evaluation were developed by the Far West Laboratory EBCE staff and are as follows:

Student Background Summary (SBS). Used at entry to the program to provide background and demographic information on students. It includes questions on plans for after high school, baseline attitudes toward school, and reasons for entering the program. All questions are multiple-choice or rating scales. The instrument requires approximately 15 minutes to complete.

School Opinion Scales (SOS). Each of the 30 items consists of a statement to be rated on an agree-disagree scale. Four subscale scores and a total score are available. One subscale score measures long-term attitudes toward school and learning while three subscales rate the current or last program attended in terms of student autonomy, student-staff relationships, and peer relationships. The instrument takes about 15 minutes to complete.

Student Plans and Perceptions Survey (SPPS). Collects information from students at the end of the school year on their future plans, attitudes toward school, and attitude toward their current school program. Several questions are repeated from the SBS. The instrument takes about 15 minutes to complete and contains questions in several formats -- multiple-choice, rating scales, and open-ended.

In the secondary study, on perceptions and program outcomes, internally developed instruments were used with each respondent group.

EBCE Perceptions Survey (EPS). Completed by EBCE students at the end of the school year. The questions are specific to the EBCE program. Students are asked to rate the success of program activities, to describe the activities with resources, and state reasons why they would choose to participate in the program again. It contains multiple-choice items, rating scales, and open-ended questions. The questionnaire takes about 15 minutes to complete.

Parent Opinion Survey (POS). Collects information on how parents liked the program, how much contact they had with the school, and how the program affected the students. It is a mail questionnaire consisting of multiple-choice items, ratings scales, and two open-ended questions.

Resource Opinion Survey (ROS). Collects information from resources on how well programs functioned and how they value their participation. It is a mail questionnaire consisting of multiple-choice questions, rating scales, and one open-ended question.

The relationship between instruments and evaluation questions for the experimental and control student outcomes study is shown in Table 7. The relationship between instruments and evaluation questions for the study of program perceptions and outcomes in shown in Table 8. Copies of project developed instruments are located in Appendix A.

3.2.2 Design

Student Outcomes Study. The design for the 1976-77 evaluation called for the use of an experimental/control group design to assess student outcomes at second-year, stabilized pilot programs. The original design called for an experimental group composed of students who entered each program in September, 1976, and a matched group of control students. Both groups were to be pretested in September and October of 1976, and posttested around May of 1977. Over the course of the year, it proved necessary to modify the original design at all three sites. Although each site presented some unique problems, there were a number of difficulties in implementing the original design that appeared at more than one site. Among these were:

1. Attrition from the original EBCE experimental group. This problem had been anticipated for the Edison EBCE program which had a history of frequent turnover. However, the Highland EBCE program also dropped a number of students at mid-year (retaining 30) while the original Pacific Horizons group was reduced to 13 students by the time of posttesting. It had been planned to supplement the fall entries at Edison EBCE with students who entered through the start of the spring semester -- it proved necessary to do this also with Pacific Horizons.

2. Low percentage of tested students from the originally formed control groups. This problem had been anticipated and control groups had originally been formed by choosing at least two matches for each experimental student. However, not enough

TABLE 7

RELATIONSHIP BETWEEN INSTRUMENTATION AND EVALUATION QUESTIONS
USED IN COMPARISON OF EBCE AND CONTROL STUDENT OUTCOMES

Evaluation Questions	Instrumentation	
	Highland Site	Pacific Horizons and Edison Sites
I. CAREER DEVELOPMENT/AWARENESS		
A. Did EBCE students engage in more career exploration and career planning activities than did non-EBCE students?	ACD, Parts IB, IIIB	COAC
B. Did EBCE students learn more about career planning than did non-EBCE students?	ACD, Part IIIA	CPT
C. Did EBCE students progress more during the year in developing plans for the future than did non-EBCE students?	ACD IIIB SPPS 1, 2, 3	COAC SPPS 1, 2, 3
D. Did EBCE students develop more positive career-related attitudes than did non-EBCE students?	SAS, Scale 2	SAS, Scale 2
E. Did EBCE students gain more occupational knowledge than did non-EBCE students	ACD, Part IA	--
F. Did EBCE students gain more knowledge and appreciation of what is required to hold a job and to be advanced in an occupation than did non-EBCE students?	--	CDT
II. PERSONAL AND INTERPERSONAL SKILLS		
A. Did EBCE students report more change in personal growth (such as self-reliance) and in interpersonal skills than did non-EBCE students?	SPPS 8	SPPS 8
B. Did EBCE students develop a more positive attitude toward self and others than did non-EBCE students	SAS, Scales 3, 4	SAS, Scales 3, 4
III. SCHOOL-RELATED ATTITUDES		
A. Did EBCE students have a more positive attitude toward school and learning than did non-EBCE students?	SOS, Scale B SBS/SPPS 7	SOS, Scale B SBS/SPPS 7
B. Did EBCE students rate their school program as more helpful to them personally than did non-EBCE students?	SBS/SPPS 5	SBS/SPPS5
C. Did EBCE students feel that they learned more in their program about careers, getting along with other people, problem-solving, and basic skills than did non-EBCE students?	SPPS6	SPPS6
D. Did EBCE students feel that their program provided more opportunity for autonomy than did non-EBCE students?	SOS, Scale A	SOS, Scale A
E. Did EBCE students feel more positive about peer and staff relationships than did non-EBCE students?	SOS, Scales C, D	SOS, Scales C, D
IV. BASIC SKILLS		
Did EBCE students progress in basic skills at a rate at least equal to the rate of progress of non-EBCE students?	CTBS	CTBS

TABLE 8

RELATIONSHIP BETWEEN INSTRUMENTATION AND EVALUATION QUESTIONS USED IN STUDY OF PROGRAM PERCEPTIONS AND PROGRAM OUTCOMES

QUESTIONS	INSTRUMENTATION
EBCE STUDENTS	
1. Did students like the program?	EPS 1, 3, 4
2. Did students feel the program functioned well?	EPS 2, 7, 8, 9
3. Did students earn normal amounts of credit toward their graduation?	School records
PARENTS OF EBCE STUDENTS	
4. Did parents like the program and feel that it benefitted the students?	POS 1, 3, 4, 5, 7, 8
RESOURCES	
5. Did resources value participation in the program?	ROS 12, 13, 14
6. Did resources feel the program functioned well?	ROS 4, 5, 7-10

students showed up for control group pretesting to allow for a direct one-to-one match between experimental and control students. The number of control group students was further reduced after the posttest sessions. Testing of control group students had been accomplished with the cooperation of the local school districts and the local high school administrative staff. In all instances it was reported that although the staff could urge students to cooperate in the testing sessions, there was no way that they could force them to do so. Also, two sites (Edison and Highland) had problems getting the necessary releases signed by parents.

3. Loss of comparability of experimental and control groups. This problem was a natural outgrowth of the problems caused by changes in the originally constituted experimental groups and attrition from the originally constituted control groups. In all three cases, it was necessary to use almost all tested control students in order to acquire a group of adequate size for statistical analysis. The experimental groups with which they were to be compared had, in all three cases, been sharply reduced in size or supplemented with students not enrolled in the school at the time of control group selection.

The question of comparability of groups is, therefore, of great importance in interpreting the evaluation outcomes. The whole topic of student populations will be discussed for each site, in depth, in Section 4.1 The basic design comparing EBCE and non-EBCE students remains intact, but subject to such restraints as may appear necessary in view of the shifts in population.

The changes in design also led to some changes in the testing schedules. The original testing sessions were held in the fall during which students completed the SBS, the SAS, SOS, and a career development instrument. At two sites (Highland and Pacific Horizons) the CTBS was also given, while data from the district testing program were used at the third site (Edison). Following these initial pretest sessions, Edison and Pacific Horizons continued to give the battery of pretests to all new students who entered the program up to and including the start of the second semester. Edison also, as specified in the original plan, posttested all students who had been in the program for two or more quins (at least 18 weeks) at whatever time they exited from the program. All three sites conducted posttest sessions for those students remaining in the program at the end of the year. Posttest sessions took place during late April at Highland, in May at Pacific Horizons, and in early June at

Edison. During the posttest sessions, students repeated the SAS, SOS, and the career development instrument and also completed the Student Plans and Perceptions Survey.

Program Perceptions and Program Outcomes Study. This study was a post-only design focusing on perceptions of program participants. One questionnaire was completed by all EBCE students during the posttest sessions. The other information was collected through the cooperation of the school staffs who supplied names and addresses of other participants and compiled necessary information from school records.

3.2.3 Procedures for Data Collection

One person at each EBCE site took the responsibility for testing. Frequent conversations and communications with these staff members facilitated implementation of the data collection procedures. FWL supplied sufficient copies of all instruments. A copy of a letter discussing testing procedures is shown in Appendix B. FWL provided general guidelines that required that tests be given in a school setting, under conditions where each student could work independently, and that instructions for standardized and timed tests would be followed. Actual conditions varied somewhat among the three sites. Edison reported that students took the test in small, informal groups where they worked mainly on their own. The only timed tests given at Edison were the three New Mexico tests and they did not, in fact, require the stated time. The control group at Edison consisted of small groups in several schools -- these students were also tested in small informal sessions. At the other two sites, larger scheduled testing sessions were used and the control groups were tested in one scheduled session. After each session, the test administrator was asked to complete a form on testing conditions to be used for documentation of the sessions. A copy of this form is in Appendix B.

Procedures for the mail questionnaires sent to parents and resources called for the school sites to choose between mailing the questionnaire themselves or giving Far West Laboratory the names and addresses of the program participants. In either case, all forms were returned by the respondents directly to the Laboratory. Parents and resources were not asked to identify themselves. Near the end of the school year, the school staffs were asked to supply information from their files on student credits earned.

3.2.4 Procedures for Processing Data

Student Outcomes Study. All completed tests were sent directly to Far West Laboratory where they were kept in a locked storage room. Random ID numbers were assigned to each student and all raw data were coded with these numbers. Full responsibility for data handling and processing was in the hands of only two people -- one research assistant who did most of the day-to-day work, and one other staff person who handled statistical computer processing. Because of the limited staff access, it was relatively easy to maintain control over the raw data.

The internally developed instruments were coded and keypunched in-house. The CTBS, ACD, and SAS were processed by the publishers. The New Mexico tests were scored internally using stencils provided by the publishers. The New Mexico COAC was keypunched by item as well as by total score.

The data decks were assembled by site. No cross-site analyses were done. Within each site, data were organized by experimental group and control group subfiles. Each subfile contained the following classes of variables on each student.

A. Demography, including age, grade, sex, and parent's education (item data punched from the SBS)

B. Baseline characteristics such as attitude toward school, job history, and future plans (item data punched from the SBS)

C. Scores on the CTBS (standard scores for reading comprehension and for math concepts and applications), ACD (11 scores), New Mexico test (3 scores), SAS (4 subscores), and SOS (4 scales).

D. End-of-year impressions of school program and future plans (items punched from SPPS)

E. Item responses to 25 items on the COAC for students at Pacific Horizons and Edison.

Computer files were assembled and programs were run through the FWL hookup with a large, external computer facility. Analyses used the Statistical Analysis System* package in use at that installation.

Program Perceptions and Outcomes Study. The data for this study were organized by site into three files -- student, parent, and resource. Within the student file were EBCE Perceptions Survey items and information from school files. The other two files contained item data from the Resource and Parent Opinion Surveys. All data were item punched and procedures for handling data and analyzing the data were the same as described previously.

---

*Developed by the SAS Institute, Inc., P.O. Box 10066, Raleigh, NC 27605

4. EVALUATION PROCESS

4.1 Highland High School EBCE

4.1.1 Formation of Groups

The experimental group at the Highland EBCE program originally consisted of 43 students who volunteered for the program at the start of the 1976-77 school year. All students were in the eleventh and twelfth grades, and almost all had previously attended the regular Highland High School program. Because there was no large pool of applicants from which to draw a control group, it was necessary to construct a control group from the Highland High School population who had not elected to attend EBCE.

Realizing from previous experience in selecting and testing high school students that only 30-40% of the control members would complete both pretest and posttest sessions (see FWL-EBCE Final Evaluation Report, 1974 and Final Evaluation Report, 1975), it was decided to select twice as many control group members as there were experimental students. A selection of control students was made by a member of the EBCE staff at Highland, with the cooperation and assistance of other Highland High School personnel. The control group members were selected from school rosters by matching each experimental student with two other students on grade, sex, grade-point average, and number of credits earned. For some low-achieving experimental students, it was possible to locate only one matching control student since a relatively high percentage of these students had enrolled in EBCE. There were problems in persuading the students selected to appear for testing. Of the 82 identified control-group students, only 42 were pretested, although make-up sessions were held and the staff of the regular Highland High School cooperated in interviewing students individually and urging them to attend the testing sessions.

During the year there was attrition from both experimental and control groups. A few control students who took the pretest left high school during the year. Some EBCE students were transferred back to regular high school at the end of the fall semester because of failure to meet minimum standards for earning project credits. Some control students who had attended the pretest session and were still in school declined to attend the posttest session. At the end of the year, both pretests and posttests had been completed by 28 experimental students (out of an original group of 43) and 32 control students (out of an originally selected group of 82).

With such heavy loss of members from the originally selected experimental and control groups (from the control group especially), the comparability of the two groups at the end of year was questionable. An analysis showed that only 16 experimental students still had a matching member in the control group (some of these experimental students still had two matching control-group members). The group of 32 tested control students, when compared to the group of 28 tested experimental students, was relatively high in females, twelfth-grade students, and students with high GPAs. Considering the analysis plan, it seemed necessary to preserve all tested experimentals as a group (in order to maximize the sample size for statistical purposes) but it also seemed desirable to improve the comparability of the two groups. Therefore, it was decided to pair tested experimental students with tested control students on the three selection variables (sex, grade, GPA -- in rank order) and to use this method to eliminate four students from the control group. The process involved completing possible pairings on all three variables, then proceeding to pairings on two variables (using the rank-order of the variables), and finally proceeding to pairings of lower order, until 28 pairings were made. The remaining four control students (all females; all with GPAs of 2.0 or above; three in twelfth grade, one in eleventh grade) were removed from the control group. The pairings made are shown as Figure 1. The composition of the total set of tested control students, the final control group, and the final experimental group is presented in Table 9. The final experimental and control groups were similar in distributions on grade level and GPA (although the experimental group had more students with extremely low GPA). Although both groups had more females than males, the control group was relatively overrepresented by females.

4.1.2 Composition and Comparability of Groups

The previous section has discussed the comparability of the experimental and control groups on the variables used in the matching process. This section

		EXPERIMENTAL			CONTROL		
		SEX	GRADE	GPA*	SEX	GRADE	GPA*
ORIGINAL PAIRINGS	1	M	11	1	Identical with Experimental Students		
	2	M	12	1			
	3	M	12	3			
	4	F	11	2			
	5	F	11	3			
	6	F	11	3			
	7	F	12	1			
	8	F	12	1			
	9	F	12	1			
	10	F	12	1			
	11	F	12	2			
	12	F	12	2			
	13	F	12	2			
	14	F	12	2			
	15	F	12	2			
	16	F	12	3			
OTHER MATCHES	17	M	11	0	M	11	1
	18	M	12	0	M	11	1
	19	M	12	0	M	11	1
	20	M	12	0	M	12	1
	21	M	12	1	M	12	1
	22	M	12	1	F	12	2
	23	M	12	1	F	12	2
	24	M	12	2	M	12	2
	25	M	12	3	F	12	3
	26	F	11	0	F	12	1
	27	F	11	2	F	11	2
	28	F	12	0	F	12	1
ELIMINATED STUDENTS	1				F	11	3
	2				F	12	2
	3				F	12	2
	4				F	12	3

*0 = 0.00-0.99; 1 = 1.00 - 1.99; 2 = 2.00 - 2.99; 3 = 3.00 - 4.00

FIGURE 1

MATCHING OF EXPERIMENTAL AND CONTROL STUDENTS TO FORM THE HIGHLAND EBCE CONTROL GROUP

TABLE 9

COMPOSITION OF HIGHLAND EXPERIMENTAL AND CONTROL GROUPS

Variable		Total Tested Control Members N=32	Final Control Group N=28	Final Experimental Group N=28
Grade:	11	9	8	7
	12	23	20	21
Sex:	M	9	9	12
	F	23	19	16
GPA:	0-.9	1	1	6
	1-1.9	12	12	9
	2-2.9	12	10	8
	3-3.9	7	5	5
	$\overline{X}$	2.3	2.1	1.9

will discuss the comparability of the Highland experimental and control groups on other demographic and baseline attitudinal variables. The information was collected from the Student Background Summary completed during the pretest sessions.

A comparison of parent demography for the experimental and control groups at Highland High is shown in Table 10. Parents' educational level is very similar for both groups. The data show that about 64% of the fathers and 40% of the mothers had had at least some college education. As would be expected with such a high educational level, many fathers were reported to be employed as professionals, managers/administrators, or proprietor/owners. Seventy percent of experimental fathers were reported in these categories while the controls were somewhat lower (57%). Most mothers in both groups were reported as being homemakers or having jobs in the clerical category. Overall, parent education and occupation appear to be sufficiently similar for the two student groups to support a position that the two groups are drawn from the same population.

Table 11 shows the amount of paid work experience reported by EBCE and control group students at the time of pretesting. Because the EBCE program has a number of career education objectives, the amount of knowledge about the world of work that students possess independently of their school program could have an important effect on evaluation outcomes. Table 11 shows that all students have had some work experience and that about half of each group the equivalent of three months or less of full-time work. More EBCE students report working at least one year or more.

Table 12 presents the means for all items on the Student Background Summary where means were appropriate. Much of this information will be discussed further in the student outcome section; it is summarized here for the purpose of comparing the Highland groups. Table 12 shows no significant differences between the experimental and control group means for parents' education level, amount of paid work experience, or students' future plans. However, differences between the groups are shown in attitudes toward school and toward the previous year's program. The EBCE group were much more negative about previous school experiences and also about the helpfulness of their former program. This is appropriate in that the control group had been chosen from the general population at the school and had not expressed an interest in transferring to an alternative program. It should be noted, however, that means for the control

TABLE 10

COMPARISON OF PARENTS' DEMOGRAPHY FOR EXPERIMENTAL AND CONTROL GROUPS AT HIGHLAND BASED ON STUDENT REPORT*

Item	Experimental		Control	
	f	%	f	%
Father's Education				
Less than high school graduate	5	18	6	21
High school graduate	5	18	4	14
Some college	6	21	8	29
College graduate	8	29	6	21
Some graduate work	4	14	4	14
Mother's Education				
Less than high school graduate	4	14	3	11
High school graduate	13	46	13	46
Some college	7	25	8	29
College graduate	3	11	3	11
Some graduate work	1	4	1	4
Father's Work				
Professional	8	38	5	24
Manager/administrator	4	19	4	19
Proprietor/owner	3	14	3	14
Craftsman	2	10	1	5
Sales	2	10	1	5
Operative	0	0	3	14
Other responses	2	10	4	20
No response	7	0	7	0
Mother's Work				
Full-time homemaker	9	36	7	32
Clerical	7	28	8	36
Professional	1	4	3	14
Sales	3	12	1	5
Other responses	5	20	3	14
No response	3	0	6	0

*Original categories have been combined. See text.

TABLE 11

AMOUNT OF PAID WORK EXPERIENCE REPORTED BY HIGHLAND EXPERIMENTAL AND CONTROL STUDENTS

Amount of Work Experience	Experimental		Control	
	f	%	f	%
None	0	0	0	0
Less than 3 months full-time or 6 months part-time	4	14.8	4	14.3
At least 3 months full-time or 6 months part-time	7	25.9	8	28.6
At least 6 months full-time or 12 months part-time	3	11.1	9	32.1
At least one year full-time or two years part-time	13	48.2	7	25.0
No response	1	0	0	0

TABLE 12

COMPARISON OF HIGHLAND EXPERIMENTAL AND CONTROL GROUP MEMBERS ON BASELINE INFORMATION FROM STUDENT BACKGROUND SUMMARY

Item	Experimental Mean	Control Mean	t Value	Scale Value
Parents' Educational Level				
Father	4.1	4.0	NS	1-7
Mother	3.5	3.5	NS	1-7
Amount of Paid Work Experience	3.9	3.7	NS	1-5
Future Plans				
One year plans	2.7	2.7	NS	1-4
Five year plans	3.4	3.2	NS	1-4
Educational plans, one year	3.7	4.5	NS	1-6
Attitude Toward School				
Liked school last year	2.2	3.5	-4.54**	1-5
Liked school before last year	3.0	3.8	-2.47*	1-5
Importance of doing school work	3.9	4.1	NS	1-5
Importance of good grades	3.9	4.3	NS	1-5
Helpfulness of Last Year's Program				
Prepares for work	1.8	2.3	-2.45*	1-4
Prepares for college	2.4	2.4	NS	1-4
Plan future	1.8	2.4	-2.93**	1-4
Help understand self	1.8	2.4	-3.10**	1-4
Help get along with others	2.2	2.9	-2.96**	1-4

*Significant at .05 level
**Significant at .01 level

group were not high; that is, the control group was mildly positive -- "liked school more than disliked it" -- while the EBCE group was negative (at or below the midpoint of the scale).

In summary, the Highland EBCE group and the Highland control group are similar in several dimensions including grade level, GPA, work history, future plans, and parents' education and work. The experimental group differs from the control in having a lower percentage of female members and in more negative long- and short-term attitudes toward school.

One more student group was used in the Highland evaluation. This group consisted of 10 second-year students and five students who enrolled in the program after the control group was selected. These fifteen students are not part of the experimental/control study, but are included in the program perceptions study. Table 13 presents basic demographic data on these students.

TABLE 13

DEMOGRAPHIC DATA FOR HIGHLAND EBCE STUDENTS NOT INCLUDED IN THE STUDENT OUTCOMES STUDY

Item	Second Year N=10	Other N=5	Total N=15
Grade: 11	-	1	1
12	10	4	14
Sex: M	6	4	10
F	4	1	5

4.2 Pacific Horizons High School

4.2.1 Formation of Groups

The original experimental group at Pacific Horizons High School consisted of 35 new students self-selected into the program from the tenth, eleventh, and twelfth grades of the various city high schools. Although students were interviewed before admittance, this was largely a formality and, since there was usually space in the school, all interested applicants were admitted. Because there was no large pool of applicants from which a random sample could be drawn for a control group, the design called for the development of a control group from students in other high school programs matched to the experimental group on grade, sex, ethnic group, and GPA. As at other sites, substantially more control group members were to be selected than were needed to pair the members of the experimental group.

"School of origin" was not used as a matching variable because, even though the EBCE students came from all city high schools, the local school district considered that the busing program provided enough mix of student populations so that one school could serve as a source of the control group. The district also considered that this was a more practical way to proceed from an administrative standpoint. Therefore, all control group testing was limited to one high school. Through conferences with staff at this school, it was determined that two groups would be tested: the control group chosen from the general school population and a comparison group consisting of members of an in-school, alternative program for undermotivated tenth-grade students.

The control group members were chosen by Far West staff members working from school rosters provided by the district. Where possible, three matches were provided for each EBCE student, forming an original control group pool of 101 students matched on ethnic group (using the district classification), sex, grade level, and grade point average. Use of GPA as a matching variable was complicated by the fact that complete records were not available for all EBCE students. It was necessary for the Pacific Horizons staff members responsible for testing to estimate the GPA of some students.

From this original pool of 101 students, 52 were pretested and 31 of these completed the posttests. These figures include the total number tested at the original testing sessions and at make-up sessions held by school personnel. This group of 31 students will be referred to throughout the report as Pacific Horizons control group.

Following the posttest sessions, it was found that only 13 of the original EBCE (experimental) group were still enrolled in the program. However, Pacific Horizons had continued to admit new students and each student had been given the battery of pretests upon entry to the program. In order to increase the experimental group to a meaningful size, it was necessary to add to it the 17 students who had entered Pacific Horizons during the first semester and at the start of the second semester. Although some of these had entered during the fall and others were second semester enrollees, all had at least one semester in the program. By this means the experimental group size was raised to 30 students.

Thus, the final groups used in the evaluation consisted of an experimental group formed of all tested students who had been enrolled in the program for at least one semester but not more than two, and a control group consisting of all tested members of the original control group (31 out of the original 101 chosen). There was no longer any possibility of experimental and control groups formed by original pairings of experimental and control students on selection variables; because of attrition from the original groups, only eight such pairings remained. Because the number of tested control group selectees was small, it was necessary to use them all, and it was also necessary to increase the experimental group by incorporating new students for whom no control-member pairings existed.

In addition to the randomly selected control group, an additional comparison group was tested at the same school. This had been suggested by the Stockton Unified School District to assist them in their evaluation of the program; FWL agreed in order to provide an additional source of comparative data for the study of Pacific Horizons outcomes. This group consisted of tenth-graders attending an alternative program for undermotivated students. Details of the program and a summary of evaluation findings are located in Appendix C. Because the program was restricted to tenth-grade students, it served as a comparison group only for the 17 tenth-grade EBCE students. This group will be referred to as Pacific Horizons comparison group.

4.2.2 Composition and Comparability of Groups

In examining the comparability of the experimental group and control group there are two questions to be considered: To what extent are the two groups alike in relation to the variables originally used in matching; and to what extent are the groups alike in other demographic and baseline areas not used in the original matching process? The first question, addressed by Table 14, compares the evolving experimental group to the final control group on three basic dimensions: ethnic group of participants, grade level, and sex.

The ethnic group designations are those categories checked by students in responding to a question on the SBS -- "How do you describe yourself?" The final experimental group strongly resembles the original experimental group in the percentage of white and non-white students, but the non-white members appear more ethnically diverse than such members of either the original experimental or control group. The experimental and control groups show strong similarities in ethnic group composition.

When considering grade level, it is evident that although the mean grade level of cooperating experimental students decreased over the year, the match between grade level of experimental and control students is very close.

The original experimental group was predominantly female in composition (25 females to ten males) but lost many of the females during the year. About an equal number of males and females were added to the program, leading to an end-of-year experimental group that was more nearly balanced. The control group, originally chosen to be predominantly female, continued to maintain a ratio of two females to one male.

GPA, the fourth variable used in matching, was dropped from the analysis because sufficiently accurate data were not available for all students. No estimates on GPA were obtained for students enrolling after the start of the year. The original matching on this variable had used rough estimates in some cases, and in view of the subsequent turnover in group members it seemed unlikely that examination of this variable would assist in determining the degree of similarity of the experimental and control groups.

In order to further consider the question of comparability of groups, the groups were compared on the demographic and baseline portions of the Student Background Summary that had been completed at the pretest sessions or upon entrance to the program. Table 15 presents parent demography as reported by

TABLE 14

COMPOSITION OF PACIFIC HORIZONS EXPERIMENTAL AND CONTROL GROUPS

Matching Variable	Original Experimental Group	Disposition of Original Group		Second Semester Students	Final Experimental Group	Final Control Group
		Out	In			
	N=35	N=22	N=13	N=17	N=30	N=31
Ethnic Group						
White	17	10	7	9	16	17
Black	9	5	4	1	5	7
Mexican American	7	6	1	2	3	6
American Indian	1	1	0	1	1	1
Filipino				1	1	0
Puerto Rican				1	1	0
Other	1	0	1	2	3	0
Grade						
Tenth	13	7	6	11	17	16
Eleventh	16	10	6	5	11	11
Twelfth	6	5	1	1	2	4
Sex						
Male	10	4	6	7	13	10
Female	25	18	7	10	17	21

TABLE 15

COMPARISON OF PARENTS' DEMOGRAPHY FOR EXPERIMENTAL AND CONTROL GROUPS AT PACIFIC HORIZONS HIGH SCHOOL BASED ON STUDENT REPORT

Item	Experimental		Control	
	f	%	f	%
Father's Education				
Less than high school graduate	8	28	5	18
High school graduate	8	28	10	37
At least some college	13	45	12	44
No response	1	-	4	-
Mother's Education				
Less than high school graduate	10	36	6	21
High school graduate	9	32	9	31
At least some college	9	32	14	48
No response	2	-	2	-
Father's Work				
Laborer	3	13	8	30
Operative	4	18	4	15
Professional	4	17	3	11
Craftsman	3	13	3	11
Manager/Administrator	3	13	2	7
Sales	2	9	3	11
Other responses	4	5	4	4
No response	7	-	4	-
Mother's Work				
Full-time homemaker	12	48	10	38
Service	4	16	3	12
Professional	3	12	3	12
Clerical	2	8	3	12
Manager	0	0	3	12
Other responses	4	16	4	16
No response	5	-	5	-

*Original categories have been combined. See text.

students in the experimental and control groups. Categories for the items on parent education have been reduced from the original seven to three for presentation in the table. The table shows that about 45% of the fathers in each group have had some college, more mothers in the control group have attended college, and more parents in the experimental group are not high school graduates.

Students were asked to indicate from a list of 14 categories the work classification of each parent. Results are shown in Table 15. Experimental and control students' responses were very similar on this item. Most responses were in the same six categories for father's work and five categories for mother's work. No more than two responses were found for either group in the other categories. It may be noted that for both groups, frequently mentioned occupations for fathers were laborer, skilled trades (such as operative and draftsman), and sales. Professional and managerial jobs accounted for about 20% of the total.

A baseline item on student's long-range plans for work (using the same classification as for parents) indicated that 50% of entering EBCE students plan to go into the professions while 37% of the control group had similar aspirations. Other responses were widely scattered throughout all categories except for farmer and homemaker. Five control students and no experimentals chose the clerical category; this may reflect the predominance of females in the control group.

Table 16 shows the amount of previous work experience reported by students and shows a close correspondence between time reported by both groups.

Table 17 presents a summary of all data from the SBS that was in scale form and on which t-tests could be run to compare the experimental and control group responses. This information will be reported in more detail in the section on student outcomes. It is presented here to further clarify experimental and control group similarities and differences. Table 17 shows no significant differences between the groups on items in the area of future plans, parents' educational level, and amount of paid work experience. However, there are some differences in student attitudes toward school and toward the previous school program.

In summary, the Pacific Horizons experimental group and the control group appear basically similar in the dimensions of parent demography, student plans for work and education, student's previous work experience, and student ethnic

TABLE 16

AMOUNT OF PAID WORK EXPERIENCE REPORTED BY PACIFIC HORIZONS EXPERIMENTAL AND CONTROL STUDENTS

Amount of Work Experience	Experimental		Control	
	f	%	f	%
None	10	33.3	10	33.3
Less than 3 months full-time or 6 months part-time	12	40.0	13	43.3
At least 3 months full-time or 6 months part-time	4	13.3	2	6.7
At least 6 months full-time or 12 months part-time	0	0	3	10.0
At least one year full-time or two years part-time	4	13.3	2	6.7
No response	0	-	1	-

TABLE 17

COMPARISON OF PACIFIC HORIZONS EXPERIMENTAL AND CONTROL GROUP MEMBERS ON BASELINE INFORMATION FROM THE STUDENT BACKGROUND SUMMARY

Item	Experimental Mean	Control Mean	t Value	Scale Value
Parents' Educational Level				
Father	3.4	4.0	NS	1-7
Mother	3.0	3.7	NS	1-7
Amount of Paid Work Experience	2.2	2.1	NS	1-5
Future Plans				
One year plans	2.7	2.3	NS	1-4
Five year plans	3.5	3.2	NS	1-4
Educational plans, one year	3.8	4.4	NS	1-6
Attitude Toward School				
Liked school last year	2.9	3.7	-2.46*	1-5
Liked school before last year	3.2	3.8	-2.32*	1-5
Importance of doing school work	3.8	4.1	NS	1-5
Importance of good grades	4.1	4.3	NS	1-5
Helpfulness of Last Year's Program				
Prepares for work	2.0	2.6	-2.85**	1-4
Prepares for college	2.3	2.7	NS	1-4
Plan future	2.1	2.4	NS	1-4
Help understand self	2.0	2.5	-2.16*	1-4
Help get along with others	2.4	2.7	NS	1-4

*Significant at the .05 level
**Significant at the .01 level

group and grade level. There are two areas where differences between the groups should suggest the need for caution in interpreting data: The control group is predominantly female and has more positive attitudes toward school and toward previous school programs.

In addition to the experimental and control groups, three other groups of students were used in the evaluation: the comparison group, the group of tenth-grade EBCE students, and the group of second-year EBCE students. The comparison group and the group of tenth-grade EBCE students were used in several analyses reported in Appendix C. The data from second-year EBCE students were included and reported in the program perceptions study. Demographic data on the comparison group, the group of EBCE tenth-graders, and the group of EBCE second-year students are presented in Table 18.

Further comparative information on EBCE tenth-grade students and the comparison group is presented in Table 19. These tables indicate that the comparison group students show no major differences from EBCE students except for a somewhat more positive view of their previously attended program.

4.3. Edison High School EBCE

4.3.1 Formation of Groups

The original experimental group at Edison High School EBCE consisted of the students who enrolled for the first time in EBCE during the fall of 1976,* who had not been enrolled previously in EBCE, and who had CTBS scores from the previous district testing program in May 1976. A control group was formed by matching each of the 25 experimental EBCE students with two students in the city-wide high school population who had never attended EBCE. Using a computer search and retrieval on the student files maintained by the school district, students were matched on grade, sex, ethnic group, and originating school, and finally, on 1976 CTBS reading achievement total scores. This selection of control group members was made by a senior evaluation staff member from the Fresno district office.

---

*Either during the first or second "quinmester" (nine-week term).

TABLE 18

DEMOGRAPHIC INFORMATION FOR OTHER PACIFIC HORIZONS GROUPS USED IN THE EVALUATION

	P.H. Tenth-Grade Students N=17		Comparison Group N=33		P.H. Second-Year Students N=16	
	f	%	f	%	f	%
Ethnic Group						
White	9	53	14	42	12	75
Black	2	12	6	18	3	19
Mexican American	2	12	9	27	0	0
American Indian	1	06	0	0	0	0
Filipino	0	0	1	3	0	0
Puerto Rican	1	06	0	0	0	0
Other	2	12	3	9	1	6
Grade						
Tenth	17	100	33	100	-	-
Eleventh	-	-	-	-	7	44
Twelfth	-	-	-	-	9	56
Sex						
Male	10	59	17	52	5	31
Female	7	41	16	48	11	69

TABLE 19

COMPARISON OF PACIFIC HORIZONS TENTH-GRADE STUDENTS AND COMPARISON GROUP ON DEMOGRAPHIC AND BASELINE VARIABLES

Item	Tenth-grade Students	Comparison Group	t Value
	Mean	Mean	
Parent's Educational Level			
Father	3.5	3.5	NS
Mother	3.5	3.4	NS
Amount of Paid Work Experience	2.2	2.3	NS
Future Plans			
One year plans	2.7	2.5	NS
Five year plans	3.6	3.6	NS
Educational plans, one year	3.6	3.4	NS
Attitude Toward School			
Liked school last year	2.9	3.6	NS
Liked school before last year	3.1	3.6	NS
Importance of doing school work	3.8	3.8	NS
Importance of good grades	4.2	4.4	NS
Helpfulness of Last Year's Program			
Prepare for work	2.1	2.7	-2.27*
Prepare for college	2.1	2.6	NS
Plan future	1.9	2.5	-2.33*
Help understand self	2.0	2.7	2.50*
Help get along with others	2.3	2.7	NS

*Significant at the .05 level

Pretesting of this control group took place in December, 1976, and posttesting was done in April, 1977. Testing on all instruments (except the basic skills measure) was accomplished by the above mentioned representative of the Fresno district evaluation staff. He contacted the schools, secured the cooperation of staff and students, and conducted the testing sessions. All tested students were requested to secure parental releases; no student's data were forwarded by the district to FWL without a release. Twenty-four (out of 50 selected) supplied the required releases; these students constitute the original control group.

Basic skills scores for the control group were available separately through the district testing program which conducts district-wide achievement testing on a yearly basis. Only students with pretest scores were selected as control group members. Of the 50 original control students, 41 were posttested. Therefore, the group available for posttest comparison on basic skills variables consists of 41 students out of the original group of 50.

The evaluation design for Edison EBCE called for testing by a local program staff member of all EBCE students at their program entry and using as the final experimental group only those students who remained in the program for two or more quins. It was anticipated that attrition from the first quinmester (fall) entries would deplete the experimental group, but that students entering the program later would be added to that group. It was planned to pretest all new students who entered the program through the start of the third quinmester (in January/February, 1977) and posttest all students spending two or more quinmesters in the program (either at program exit or year-end, whichever was sooner). All students completing both pre- and posttests would form the experimental group.

Although the above was the planned procedure, not all appropriate students were in fact tested. The Edison EBCE staff member pretested 22 new students in the first quin but only one who entered during the second quin. Several other second-quin entrants were not pretested and, thus, they could not be used in the evaluation. Of these 23 pretested students, 12 were posttested: six at the end of the year and six at the end of the second quinmester in January. Only eight of those 12 students were members of the original group (fall quin entrants) used in selecting control group members. However, 19 new students who entered the program at the start of the third quinmester in January/February completed both the pretests on entry and the posttests in June. Therefore, at the end of the school year, the experimental group was comprised of 31 first-year students who had completed both pre- and posttests; 25 of these students had two quinmesters experience in the program, one had been enrolled for three quinmesters, and five had been enrolled the full year (four quinmesters).

Considering the short length of the time interval (four months) between control group pre- and posttesting sessions, it did appear inappropriate to the planned analysis to include in the experimental group any students who had been in the EBCE program substantially longer than such a period. Therefore, since four months is equivalent to two quinmesters (18 weeks), the six first-year students who had attended the program longer than two quinmesters (18 weeks) have been removed from the experimental group and their data will not be compared statistically in the experimental-control groups analyses. The experimental group used in the analyses, therefore, consists of all first-year students who were in the program for exactly two quinmesters (18 weeks) and who took both the pre- and posttests. Six of these students were in the program from September through January; the remaining 19 entered the program in January and were posttested in June. The control group consists of the residual non-EBCE students originally matched to the group of new, fall EBCE entrants; it contains only 24 of 50 originally chosen members. Comparability of the two groups is dependent on the degree of similarity between the groups of fall and spring entrants to the EBCE program as well as on the extent to which the 24 tested members of the control group are representative of the selected 50. The comparison of the two groups is developed in the next section.

4.3.2 Composition and Comparability of Groups

Three of the variables originally used in matching the experimental and control groups were ethnic group, grade level, and sex. As shown in Table 20, only sex shows similar distribution for both groups. Comparing the experimental group to the control group, it contains more white students (84% compared to 67%) and fewer minority students (16% compared to 33%). Comparison of the distribution of the two groups on grade level reveals dissimilarities: No control student is in the tenth grade and all but four control students are in the twelfth grade; five experimental students are in the tenth grade and only nine of 25 students are in the twelfth grade. Since most of the fall

TABLE 20

COMPOSITION OF EDISON EXPERIMENTAL AND CONTROL GROUPS

Matching Variable	Experimental N=25		Control N=24	
	f	%	f	%
Ethnic Group				
White	21	84	16	67
Black	3	12	5	21
Mexican-American	1	4	2	8
Filipino	0	0	1	4
Other	0	0	0	0
Grade				
Tenth	5	20	0	0
Eleventh	11	44	4	17
Twelfth	9	36	20	83
Sex				
Males	13	52	10	42
Female	12	48	14	58

quinmester entrants into EBCE were twelfth graders (17 out of 24), the control group composition reflects that original distribution. Most of the new students who entered EBCE in the spring quins were in the tenth and eleventh grades (16 out of 19). Thus, interpretation of the analyses must take into account the more advanced grade level (and therefore age) of the control group. The six EBCE students not placed in the experimental group were mainly at lower grade levels (three students in tenth grade, two students in eleventh grade); inclusion of these students in the group would not appreciably change the group's grade level distribution.

Table 21 presents a comparison of parent demography for the two groups. Parents' work categories appear to be roughly similar for the experimental and control groups. Although somewhat more fathers of students in the experimental group are in the professions, more fathers of students in the control group are at the proprietor/owner level.

Students in the control group report more paid work experience as shown in Table 22. Almost half of the group (48%) report the equivalent of at least six months full-time work. For the experimental group, only 25% have worked that long. These figures seem to reflect the older age and grade level of the students in the control group.

Table 23 summarizes those items of baseline information (from the SBS) that can be presented in the form of means.* Although some differences are evident in parents' educational level and in students' amount of paid work experience, the differences were not significant. Student plans will be discussed more fully in the outcomes section; it appears that the control group students may have planned for more education after high school (the results of this test approached statistical significance). However, the difference in means between the groups was significant on only one of the school-related items: control students liked school better the previous year than did EBCE students. When considering long-term attitude toward school, no differences were found; neither were any differences found in rating the helpfulness of the previous year's program.

---

*The scales and response distributions for most of these items will be discussed in the student outcome findings section. It is presented here in order to clarify similarities and differences between the experimental and control groups.

TABLE 21

COMPARISON OF PARENTS' DEMOGRAPHY FOR EXPERIMENTAL AND CONTROL GROUPS AT EDISON BASED ON STUDENT REPORT

Item	Experimental		Control	
	f	%	f	%
Father's Education				
Less than high school graduate	1	4	7	29
High school graduate	6	25	7	29
Some college	7	29	2	8
College graduate	5	21	3	13
Some graduate work	5	21	5	21
No response	1	0	0	0
Mother's Education				
Less than high school graduate	4	17	5	21
High school graduate	6	25	9	38
Some college	4	17	7	29
College graduate	7	29	2	8
Some graduate work	3	12	1	4
No response	1	0	0	0
Father's Work				
Professional	8	35	5	24
Proprietor/owner	1	4	5	24
Sales	2	9	3	14
Operative	3	13	2	10
Manager/Administrator	4	17	0	0
Craftsman	1	4	2	10
Laborer	2	9	1	5
Other responses	2	9	3	14
No response	2	0	3	0
Mother's Work				
Homemaker	8	35	10	47
Clerical	6	26	5	24
Professional	6	26	0	0
Manager/Administrator	2	9	2	10
Sales	1	4	2	10
Other responses	0	0	2	10
No response	2	0	3	0

TABLE 22

AMOUNT OF PAID WORK EXPERIENCE REPORTED BY EDISON EXPERIMENTAL AND CONTROL STUDENTS

Amount of Work Experience	Experimental		Control	
	f	%	f	%
None	5	21	2	9
Less than 3 months full-time or 6 months part-time	8	33	9	39
At least 3 months full-time or 6 months part-time	5	21	1	4
At least 6 months full-time or 12 months part-time	4	17	6	26
At least one year full-time or 2 years part-time	2	8	5	22
No response	1	0	1	0

TABLE 23

COMPARISON OF EDISON EXPERIMENTAL AND CONTROL GROUPS ON BASELINE INFORMATION FROM STUDENT BACKGROUND SUMMARY

Item	Experimental Mean	Control Mean	t Value	Scale Value
Parents' Educational Level				
Father	4.5	3.8	NS	1-7
Mother	4.0	3.4	NS	1-7
Amount of Paid Work Experience	2.6	3.1	NS	1-5
Future Plans				
One year plans	2.5	2.1	NS	1-4
Five year plans	3.2	3.3	NS	1-4
Educational plans, one year	3.9	4.9	NS	1-6
Attitude Toward School				
Liked school last year	3.2	3.8	2.4*	1-5
Liked school before last year	3.3	3.5	NS	1-5
Importance of doing school work	4.0	4.1	NS	1-5
Importance of good grades	4.3	4.2	NS	1-5
Helpfulness of Last Year's Program				
Prepares for work	2.2	2.5	NS	1-4
Prepares for college	2.6	2.7	NS	1-4
Plan future	2.1	2.5	NS	1-4
Help understand self	2.4	2.5	NS	1-4
Help get along with others	2.8	2.8	NS	1-4

*Significant at the .05 level

In summary, the experimental and control students appear similar in ratings of previous programs, although the control students seemed to like school better the previous year. The two groups do not differ significantly on other demographic or attitudinal items except that most of the control group are at a higher grade level and, therefore, older than experimental students. This might affect the evaluation data since older students are more likely, regardless of school program, to have had work experiences, to have made or thought about future plans, and to have acquired career information.

4.4 Factors Constraining the Interpretation of Data

4.4.1 Limited Comparability of Experimental and Control Groups

The preceding discussion (Sections 4.1 to 4.3) of the evaluation process at each pilot program reveals that each of the resulting experimental/control group pairs were imperfectly matched. Although there were well established plans (with contingencies) at each site for selecting group members, collecting data from them, and maintaining their participation throughout the year, special circumstances encountered at the sites caused deviations from those plans. In particular: (1) local staff members at each of the three sites encountered unforeseen problems in their recruitment and maintenance of a control group; (2) local staff members at two sites had difficulty in securing parents' authorization to use the data collected from control students; and (3) two pilot sites experienced considerable attrition from their experimental group due to such factors as short school terms and free entry-exit policy.

4.4.2 Uneven Quality of Data Collected from Students

The validity of certain types of data collected from EBCE students in the past (e.g., that collected through published tests) has been questionable (see FWL-EBCE Final Evaluation Report, FY1974). The validity of such data collected at the end of the school year is especially suspect because students, especially graduating seniors, are thinking of things outside of school, and it is difficult to gain their serious concentration in testing sessions. It was the aim of the data collection plan to minimize this problem through the use of instruments constructed for, and previously tested on, EBCE students. Even so, since certain areas of this evaluation (i.e., basic skills, career development) are dependent on published instruments, some caution should be exercised by the reader in interpreting these posttest data.

It should also be mentioned that there may be differences between experimental students and control students in their motivation to participate in the testing sessions. Some EBCE students may accept the testing sessions as a part of the EBCE program, toward which they have a generally favorable attitude. Such a positive motivation for completing the data collection instruments would not exist among control-group members.

4.4.3 Inadequate Instrumentation

In three outcome areas, the effectiveness of the instrumentation used for measurement in the evaluation is judged to be less than desired: career development/awareness, interpersonal skills, and basic skills. The reasons for this judgment are presented below.

Career Development/Awareness. After surveying the instruments available (as of spring 1976) in this area, FWL-EBCE staff members considered two as potentially useful: the New Mexico Career Education Series and the Assessment of Career Development. Both of these instruments have been used in this evaluation. Although it is likely that both are effective in other evaluation settings, they have proved inadequate in measuring growth of students in career development areas related to EBCE objectives. The New Mexico tests mainly consider career-related activities that are classroom (or school), not community, oriented; neither is the test experientially focused. Thus, it might be argued that there is no strong reason to expect greater increase in the measured activities among experimental students than among control students.

When used in the FWL-EBCE evaluation, the Assessment of Career Development has two weaknesses: The instrument's content is also oblique to the experiential focus of EBCE; and its length (two hours for the complete set of subtests) is excessive for use in a battery containing other instruments.

Interpersonal Skills. The internally-developed instruments used gather information through students' self-report; no complementary data are collected through objective instruments. FWL-EBCE staff searched through available instruments in spring 1976, but did not find a published instrument that appeared useful.

Basic Skills. For multiple reasons, the Comprehensive Tests of Basic Skills (CTBS) was judged by FWL-EBCE staff members as the most appropriate instrument available for measuring student growth in reading and computational skills. For example, the Fresno Unified School District has an ongoing testing program (using the CTBS) that eliminated FWL's need for testing members of the control group; local district and/or EBCE staff members (who would administer whatever test chosen) were already familiar with the instrument; the test has equivalent forms enabling pre- and posttesting using different forms; and the students' scores can be translated into grade equivalences for interpretation and use by the local staff. Nevertheless, FWL's previous testing experience with the EBCE students (see FWL-EBCE Final Evaluation Report, FY1974) warned that all published tests in basic skills, including the CTBS, "turn students off," and that the language and construction of items in the CTBS seemed inappropriate for many EBCE students. Many of these students had left regular school in order to evade the very things they encounter in such a test -- irrelevance of content to their everyday life or to their perception of the future. EBCE students' reticence to complete such basic skills assessments has been documented previously (see FWL-EBCE Final Evaluation Report, FY1974).

4.4.4 Lack of Standardization of Evaluation Procedures Across Programs

Because the FWL-EBCE evaluation budget severely limited the amount of time FWL-EBCE evaluation staff members could spend at the local sites, arrangements were made with the local districts for most evaluation activities to be accomplished by local staff. Procedures for selecting and testing control group members were developed with an evaluator in each district. Because each district carried out the evaluation activities, different lengths of treatment testing procedures and testing conditions were used at each of the pilot programs. The history of control-group and experimental-group data collection at each pilot site is presented in Sections 4.1 to 4.3.

5. FINDINGS OF THE STUDENT OUTCOMES STUDY

5.1 Career Development and Awareness

Career development and awareness were measured by the Assessment of Career Development (ACD), three tests -- Career Oriented Activities Checklist (COAC), Career Planning Test (CPT), and Career Development Test (CDT) -- from the New Mexico Career Education Test Series, Scale Two of the Student Attitude Survey (SAS), and three items from the Student Plans and Perceptions Survey (SPPS). These instruments have been discussed previously in Section 3.2. Specific subtests and items will be discussed as the data are presented.

Question: Did EBCE students engage in more career exploration and career planning activities than did non-EBCE students?

Two portions of the ACD address this question. "Exploratory Occupational Experiences" asks for students to rate (on a three-point scale) the extent of their participation in 90 activities, including formal experiences such as part-time jobs and school extracurricular activities, and informal experiences such as hobbies. "Career Planning Involvement" is an inventory of student involvement in exploratory and planning experiences that are available in the school and community either on a formal or an informal basis. Students are asked to rate the extent of involvement in the 32 activities covering the areas of seeking information, doing and experiencing, focusing information and experience, and making career plans. Scores for these two portions of the ACD are reported as means of the set of item scores. The ACD was used only with EBCE students and control members at Highland High School.

Students at the other two locations completed the COAC instead of the ACD. The major objective of the instrument (as stated by the developer) is to determine if "the student has taken important steps in order to help make an occupational decision." Twenty-five items cover some 47 activities in the areas of consulting information sources, engaging in activities that will provide information, obtaining high school training, and making plans for after graduation. For most items, the student is asked to indicate whether or not he had engaged in an activity or made a decision within the last year. The extent of involvement in the activities is not ascertained. There is one score consisting of the number of correct choices checked by the student.

Data from the ACD and COAC relating to the question are shown in Table 24. Figure 2 presents the data graphically along with the associated significance tests. The data from Highland EBCE shows a highly significant pre/post difference for the experimental group on the Career Planning Involvement Inventory. It appears that the EBCE students had been heavier participators in career planning involvement activities over the school year. The score for Exploratory Occupational Experiences showed non-significant gains for the experimental group.

Data from the Career Oriented Activities Checklist show the presence of initial differences between experimental and control groups at both Pacific Horizons and Edison EBCE; the experimental students started the year with a higher mean score than the control students. The difference between mean scores of the Pacific Horizons experimental group and control group increased during the year; in fact, the experimental group showed a significant gain in mean score. In contrast, at Edison EBCE, while the experimental group initially had a high mean score (significantly higher than the control group), this group showed little gain while the control group did make a significant gain in mean score. It appears that the experimental and control groups at each of the two sites were different initially on this dimension -- either that students who chose to come into the EBCE program were likely to already be engaging in some career planning activities, or else that students remaining in regular programs were unlikely to have been involved in such activities.

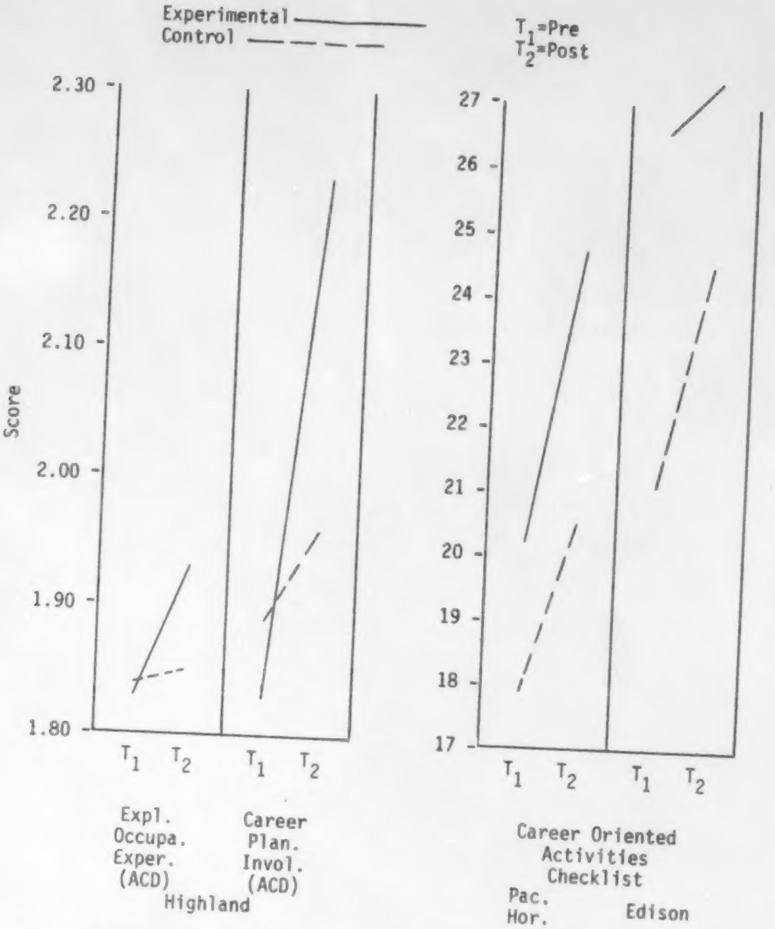
The age and grade of students may also be an influencing factor on COAC scores. Many of the items on the COAC involve activities that are more appropriate for students in the twelfth grade than for younger students (such as making decisions for after high school). At Pacific Horizons, most students in the experimental group and control group were in the tenth and eleventh grades; there was a similar grade distribution for each group. In contrast, at Edison most experimental students were in the eleventh or twelfth grade, and all but four of the control students were in the twelfth grade. The data show that (1) the two groups with older students (Edison experimental and Edison control) had the highest mean scores both pre and post, (2) the mean scores of all groups increased over time, and (3) at Pacific Horizons, where the experimental and control groups were comparable on age and comprised of

TABLE 24

DATA RELATING TO STUDENTS' CAREER EXPLORATION AND CAREER PLANNING ACTIVITIES

Score	Highland EBCE				Pacific Horizons				Edison EBCE			
	Pre		Post		Pre		Post		Pre		Post	
	Experi-Mental N=28	Control N=28	Experi-mental N=28	Control N=28	Experi-mental N=27	Control N=27	Experi-mental N=27	Control N=27	Experi-mental N=23	Control N=21	Experi-mental N=23	Control N=21
ASSESSMENT OF CAREER DEVELOPMENT: Exploratory Occupational Experiences (mean item score for 90 items with range 1-3)												
$\overline{X}$	1.83	1.84	1.93	1.85								
SD	.24	.23	.29	.21								
ASSESSMENT OF CAREER DEVELOPMENT: Career Planning Involvement (mean item score for 32 items with range 1-3)												
$\overline{X}$	1.83	1.89	2.23	1.96								
SD	.29	.32	.37	.36								
NEW MEXICO CAREER EDUCATION SERIES: Career Oriented Activities Checklist (sum of score on 25 items, maximum possible = 47)												
$\overline{X}$					20.11	17.85	24.37	20.44	26.61	21.14	27.04	24.48
SD					7.07	9.24	8.03	9.76	8.59	6.86	7.80	7.95

*See Figure 2 for statistical tests.



Differences between groups: t value					
Pre Post Gain score	0.17 1.16 1.51	0.74 2.78** 4.11**		1.01 1.61 0.72	2.32* 1.08 -1.28
Differences within groups pre-post: t value					
Experimental Control	1.93 .10	5.82** 1.86		2.65* 1.55	0.27 2.12*
Analysis of Variance: f ratio					
Groups Trials Interaction	.339 2.647 2.274	1.725 35.634** 16.909**		2.32 8.75** 0.52	3.74 2.57 1.63

*Significant at the .05 level
**Significant at the .01 level

FIGURE 2

GRAPHIC PRESENTATION OF DATA ON STUDENTS' CAREER EXPLORATION AND CAREER PLANNING ACTIVITIES relatively younger students, the experimental group showed a greater increase in mean score.

In summary, the data of Table 24 and Figure 2 demonstrate that the students in the three EBCE programs did engage in more career-planning activities than did their counterpart students not enrolled in EBCE. It should be noted that all groups (experimental and control) showed gains on these measures over the year, indicating that the degree to which students are involved in career-planning activities is partially a function of age (or maturity). However, when compared to control students, Highland EBCE students showed highly significant gains in level of participation in career-planning activities. And while at the beginning of the year EBCE students at Pacific Horizons and Edison reported a higher level of participation in such activities than did controls (which might indicate that students who opted for EBCE were more inclined toward participation in career-planning activities than those who did not opt for EBCE), EBCE students at Pacific Horizons significantly increased their own level of participation in career-oriented activities during the year.

Question: Did EBCE students learn more about career planning than did non-EBCE students?

Highland High School students completed the Career Planning Knowledge portion of the ACD described by the developers as "a sampling of facts, concepts, and understandings useful in career planning." The areas covered include knowledge of basic career development principles, knowledge of reality factors, and knowledge of the career planning process. The score consists of the number right out of 40 items. Students at the other locations completed the Career Planning Test of the New Mexico series. This test has two forms: Form A was used as the pretest and Form B as the posttest. Its objective is stated by the developers as "the student is able to make appropriate decisions about preparing for and selecting an occupation." The test has 25 items covering the areas of knowledge of information sources to consult and knowledge of what actions should be taken to make a decision related to selecting and preparing for an occupation. The score consists of the number right out of the 25 items.

Data relating to the question are shown in Table 25. At Highland EBCE, no significant difference in mean score between groups was shown on the ACD Career Planning Test. However, there was a significant drop in mean score for the experimental group from pre to post. Experimental students at Pacific Horizons

TABLE 25

DATA RELATING TO THE CAREER PLANNING KNOWLEDGE OF STUDENTS

Score	Highland EBCE				Pacific Horizons				Edison EBCE			
	Pre		Post		Pre		Post		Pre		Post	
	Experimental N=28	Control N=28	Experimental N=28	Control N=28	Experimental N=26	Control N=29	Experimental N=26	Control N=29	Experimental N=21	Control N=22	Experimental N=21	Control N=22
ASSESSMENT OF CAREER DEVELOPMENT: Career Planning Knowledge (number of correct responses to 40 items)												
$\overline{X}$	29.07	27.54	26.96	27.32								
SD	4.35	4.95	5.05	6.15								
t value	1.23		-0.24									
Difference in gain score t value	-1.46											
Pre-post gain within groups t value			-2.55*	-0.21								
NEW MEXICO CAREER EDUCATION TESTING SERIES: Career Planning Test (number of correct responses to 20 items)												
$\overline{X}$					11.42	10.90	11.15	12.52	13.19	14.23	12.43	13.86
SD					3.34	3.44	3.98	3.94	4.04	2.29	4.86	2.40
t value					0.58		-1.28		-1.03		-1.22	
Difference in gain score t value					-2.35*				-0.31			
Pre-post gain within groups t value							-0.43	3.11**			-0.65	-0.69

*Significant at the .05 level
**Significant at the .01 level

EBCE showed almost no change in mean score on the Career Planning Test from pre to post, while the control group showed a significant gain. The experimental group at Edison and the Edison control group showed slight non-significant decreases in mean score from pre to post. (The manual for this test shows a slightly lower mean for Form B for twelfth-grade students.)

Table 25 presents no evidence that EBCE students show any gain in career planning knowledge as measured by either of the published tests. The significant drop in mean score for the Highland experimental group on one test and the significant gain by one group of control students on the other suggest a lack of fit between test content and the content of the EBCE curriculum. Whatever EBCE students are learning through their participation in career activities is not reflected by scores on these career planning knowledge tests.

Question: Did EBCE students progress more during the year in developing plans for the future than did non-EBCE students?

Information related to this question was drawn from individual self-report items. Three items on future plans appeared on the SBS (pre) and were repeated in the SPPS (post). Six items on self-evaluation of career planning were part of the ACD. Similar questions were found within the COAC, including sub-objectives on obtaining training and planning for after graduation. Only selected tables will be presented in this section -- the remainder of the tables are located in Appendix D.

Table 26 presents data on student plans for one year after high school as reported on the SBS-SPPS. The original item consisted of five categories:

- going to school but not working
- mostly going to school but working part-time
- mostly working but going to school part-time
- working, not going to school
- other plans

They have been collapsed for presentation in this table from four categories to two -- "mainly school" or "mainly work"; the "other" category has been dropped. Table 26 also presents the t values for differences in gain scores treating the four categories as scale points and again omitting "other." The data show that there was relatively little change in groups from pre to post, but there were some differences between groups. More students in the control groups were planning to obtain further education after high school and control groups

TABLE 26

STUDENTS' PLANS FOR ONE YEAR AFTER HIGH SCHOOL

Item	Pre				Post			
	Experimental		Control		Experimental		Control	
	f	%	f	%	f	%	f	%
Highland EBCE								
1. Go to school, or mostly go to school but also work	11	48	12	50	10	45	15	63
2. Work, or mostly work but also go to school	12	52	12	50	12	55	9	37
CHI SQUARE	.022				1.344			
Difference in gain score (4-point scale)	1.326							
Pacific Horizons								
1. Go to school, or mostly go to school but also work	11	50	19	82	9	43	18	78
2. Work, or mostly work but also go to school	11	50	4	18	12	57	5	22
CHI SQUARE	5.380*				5.803*			
Difference in gain score (4-point scale)	0.145							
Edison EBCE								
1. Go to school, or mostly go to school but also work	11	69	15	79	10	59	16	84
2. Work, or mostly work but also go to school	5	31	4	21	7	41	3	16
CHI SQUARE	.473				2.882			
Difference in gain score (4-point scale)	1.107							

*Significant at the .05 level

appeared to have some initial differences from the EBCE groups on this dimension. The data seem to show that more EBCE students entered the program planning to emphasize work after graduation and that this difference was maintained during their time in the program.

A similar item asked for the same information on student activities after five years. These data, presented in Appendix D, show that the majority of students plan to be working in five years. The percentage of students planning to still be in school ranged from 45% (Highland) to 14% (Edison) for the EBCE students, and from 23% (Highland) to 39% (Edison) for control students.

An item on type of educational program to be attended after graduation also shows little difference from pre to post. The supporting data are found in Appendix D.

Table 27 presents the responses of Highland experimental and control students to six items from the ACD that are designed to consider "self-evaluation of career planning: knowledge of steps involved in carrying out career plans, consideration given to psychosocial factors, etc." The students were asked to complete some of the items while considering the two job choices they had identified earlier. Little change is shown in the control group from pre to post. The experimental group showed some positive changes in this group of items. They appeared to be less prepared than the control group at the start of the year and slightly better prepared at the end of the year. They did give more thought than the controls as to whether the job choices were the right ones.

The COAC test contains eight items related to the development of plans for the future. Of eight items, distributions of student responses on three are presented in Table 28 -- distributions for the remining five items will be found in Appendix D. The first item in Table 28 shows slight advantages for the EBCE students in terms of engaging in (school-based) activities that will aid in decision-making about career plans. The second question shows that a sizable proportion of EBCE students are still in the process of making decisions about post high school plans. The third question is of interest because it indicates that at the outset EBCE students were more likely to ask adults for help than were members of the control groups.

In summary, examination of student responses to a number of single items does not show that EBCE students made more progress in developing plans for the future. Some interesting differences between EBCE and non-EBCE students are apparent, but these existed at the time of pretesting and seem to be fairly stable during the time interval being measured.

TABLE 27

STUDENTS'S RESPONSES TO ACD ITEMS ON DEVELOPING PLANS FOR THE FUTURE (HIGHLAND EBCE)

Career Planning Activities Item	Response	Pretest		Posttest	
		Experimental N=28 %	Control N=28 %	Experimental N=28 %	Control N=28 %
Have you given much thought as to why your first two job choices are right for you?*	A lot	46	44	68	43
	Some	29	48	29	32
	A little	25	7	4	25
Is the amount of education you are planning in line with what is needed for the jobs?	Yes	39	61	68	75
	Not sure	46	29	25	21
	Probably not	14	11	7	4
Will the two jobs help you obtain what you want out of life?	Yes	57	79	68	68
	Not sure	39	21	29	32
	Probably not	4	0	4	0
How sure are you of the steps to take in order to prepare for and enter each of the two jobs?	Steps are quite clear	4	7	21	18
	Steps are pretty clear	36	21	32	32
	Have some idea of how	54	61	39	32
	Don't know where to begin	7	11	7	18
Do you feel you will be able to complete all the steps for at least one of the jobs?	Yes	64	89	86	89
	Not sure	25	11	11	7
	Probably not	11	0	4	4
Would you say that your job future is:	Bright	54	61	57	68
	Uncertain	43	39	39	32
	Dark	4	0	4	0

*Chi square for posttest is 6.136; significant at the .05 level.

TABLE 28

STUDENTS' RESPONSES TO COAC ITEMS ON DEVELOPING PLANS FOR THE FUTURE (PACIFIC HORIZONS AND EDISON EBCE)

Which of the following is most true of you?	Pacific Horizons				Edison EBCE			
	Pre		Post		Pre		Post	
	Experimental N=27	Control N=27	Experimental N=27	Control N=27	Experimental N=23	Control N=21	Experimental N=23	Control N=21
	%	%	%	%	%	%	%	%
ITEM A								
I have done several things during my high school career, such as getting counseling or taking different courses, that have helped me decide the kind of occupation I plan to enter after graduating from high school.	25.9	25.9	25.9	22.2	8.7	19.1	26.1	28.6
I have done several things during my high school career, such as getting counseling and engaging in different kinds of activities, that have helped me decide the type of education I will try to obtain after graduating from high school.	7.4	11.1	29.6	14.8	17.4	14.3	4.4	14.3
BOTH of the above	22.2	18.5	25.9	29.6	43.5	38.1	47.8	33.3
NONE of the above	44.4	44.4	18.5	33.3	30.4	28.6	21.7	23.8
ITEM B								
I plan to go to college or business school or obtain formal vocational training after I graduate from high school.	29.6	55.6	40.7	50.0	47.8	42.9	34.8	61.9
I plan to enter a specific occupation or branch of the armed services after I graduate from high school.	14.8	14.8	22.2	15.4	8.7	14.3	17.4	14.3
I am currently making a choice among two or three alternative plans for what I will do after I graduate from high school.	40.7	14.8	25.9	23.1	30.4	38.1	43.5	14.3
I have not made any plans yet regarding what I will do after I graduate from high school.	14.8	14.8	11.1	11.5	13.0	4.8	4.4	9.5
ITEM C								
I solve problems with school assignments on my own.	33.3	28.0	47.8	23.1	39.1	60.0	39.1	48.0
I ask teachers/parents to help me solve problems with school assignments.	55.6	48.0	26.1	50.0	39.1	35.0	43.5	28.6
I get friends to help me to solve problems with school assignments.	7.4	24.0	21.7	15.4	13.0	5.0	17.4	23.8
I skip over school assignments that are too difficult.	3.7	0.0	4.4	11.5	8.7	0.0	0.0	0.0

Question: Did EBCE students develop more positive career-related attitudes than did non-EBCE students?

One portion of the Student Attitude Survey presented the students with 22 career-related statements. Each statement was to be rated on a five-point, agree-disagree scale. Results are presented in Table 29.

Of the three groups of EBCE students, only Pacific Horizons students showed gains when compared with control students. They displayed a more positive attitude toward careers at both the beginning and end of the school year. Their attitude at the end of the year was significantly more positive than that of control students. End-of-year differences between other groups were not significant.

Question: Did EBCE students gain more occupational knowledge than did non-EBCE students?

Because no measure of occupational knowledge was included in the career-related instrument package used at two pilot sites, information from only the Highland EBCE program is available. The Occupational Knowledge Test of the ACD was used at that site. This portion of the ACD consists of 54 items on occupational characteristics (i.e., duties, psychosocial aspects, worker attributes) and 18 items on occupational preparation requirements. There is a separate score (consisting of the total number of correct responses) for each of the two parts of the test.

Data collected by the Occupational Knowledge Test from the Highland experimental and control groups are shown in Table 30. On the Occupational Characteristics subtest, the two groups had similar mean scores at the end of the year. However, the experimental group had the higher pretest mean score and declined slightly at posttest, while the control group increased its mean score substantially from pretest to posttest. The difference in gain scores was significant (at the .05 level) in favor of the control group. On the Occupational Preparation Requirements subtest, the experimental group showed little gain from pretest to posttest, but the slight decline in posttest mean score of the control group from its already lower pretest score yielded a significant difference (at the .05 level) between the groups in posttest mean scores. The data collected from this portion of the ACD do not show that EBCE students gained more occupational knowledge than did non-EBCE students.

TABLE 29

DATA ON THE CAREER-RELATED ATTITUDES OF STUDENTS

Score	Highland EBCE				Pacific Horizons				Edison EBCE			
	Pre		Post		Pre		Post		Pre		Post	
	Experimental N=28	Control N=28	Experimental N=28	Control N=28	Experimental N=22	Control N=31	Experimental N=22	Control N=31	Experimental N=24	Control N=22	Experimental N=24	Control N=22
Subscore: Attitude Toward Career Knowledge (mean item score, 5-point scale)												
$\overline{X}$	3.70	3.64	3.84	3.77	3.61	3.33	3.72	3.41	3.71	3.81	3.88	3.74
SD	.35	.51	.49	.57	.43	.47	.48	.52	.60	.44	.50	.57
t value	0.53		0.52		2.19*		2.18*		-0.65		0.87	
Difference in gain score t value	0.08				0.26				1.28			
Subscore: Attitude Toward Career Planning (mean item score, 5-point scale)												
$\overline{X}$	3.73	3.97	3.80	4.03	3.86	3.86	4.02	3.87	4.03	4.05	3.90	4.01
SD	.41	.44	.48	.47	.39	.43	.29	.49	.59	.43	.60	.46
t value	-2.12*		-1.85		-0.02		1.43		-0.14		-0.71	
Difference in gain score t value	0.04				1.30				-0.46			
Total Score: Attitude Toward Careers (mean item score, 5-point scale)												
$\overline{X}$	3.71	3.77	3.82	3.89	3.73	3.57	3.86	3.62	3.85	3.92	3.89	3.86
SD	.36	.46	.43	.49	.36	.38	.33	.46	.56	.36	.52	.45
t value	-0.50		-0.57		1.46		2.06*		-0.50		0.18	
Difference in gain score t value	-0.16				0.91				0.54			

*Significant at the .05 level

TABLE 30

COMPARISON OF STUDENT GROUPS ON THE OCCUPATIONAL KNOWLEDGE TEST OF THE ACD (HIGHLAND EBCE)

Score	Pre		Post	
	Experimental	Control	Experimental	Control
ASSESSMENT OF CAREER DEVELOPMENT: Occupational Characteristics (number of correct responses to 54 items)				
N	28	28	28	28
$\overline{X}$	40.93	37.57	39.89	39.68
SD	7.26	7.08	5.98	6.86
Comparison of means between groups	t = 1.75		t = 0.12	
Difference in groups' gain scores	t = -2.27*			
Comparison of pre & post group means			t = -1.15	t = 2.00
ASSESSMENT OF CAREER DEVELOPMENT: Occupational Preparation Requirements (number of correct responses to 18 items)				
N	28	28	28	28
$\overline{X}$	13.14	11.96	13.18	11.82
SD	2.14	2.41	1.81	2.47
Comparison of means between groups	t = 1.94		t = 2.35*	
Difference in groups' gain scores	t = 0.30			
Comparison of pre & post group means			t = 0.10	t = -0.29

*Significant at the .05 level

Question: Did EBCE students gain more knowledge and appreciation of what is required to hold a job and to be advanced in an occupation than did non-EBCE students?

At two pilot sites (Edison EBCE and Pacific Horizons), this question was addressed through the areer Development Test of the New Mexico Career Education Test Series. This test has three sub-objectives: student feels that success or failure is a function of one's own actions rather than luck; student knows how to conduct oneself properly on a job; and student knows factors that influence whether a person advances in a chosen field or occupation. The test has 25 multiple-choice items and the score is the number of correct responses.

Table 31 presents data obtained at the two sites through the Career Development Test. There are no significant differences between corresponding groups' mean scores, either pre or post. Neither is there a significant difference between the gain scores of the corresponding experimental and control groups. Although at Pacific Horizons both groups gained from pre to post, only the control group showed a significant increase in mean score from pre to post. At Edison, almost no change in mean score was noted for either the experimental or the control group. The data do not indicate that EBCE students gained more knowledge in this area than did non-EBCE students.

5.2 Personal and Interpersonal Skills

Information directly related to this area was taken from one open-ended item on the Student Plans and Perceptions Survey (SPPS) and two scales of the Student Attitude Survey (SAS). Student opinion on gains made in personal and interpersonal skills will also be found in the next section on school-related attitudes.

TABLE 31

COMPARISON OF STUDENT GROUPS ON THE CAREER DEVELOPMENT TEST OF THE NEW MEXICO CAREER EDUCATION SERIES (PACIFIC HORIZONS AND EDISON EBCE)

Score	Pacific Horizons				Edison EBCE			
	Pre		Post		Pre		Post	
	Experimental N=27	Control N=24	Experimental N=27	Control N=24	Experimental N=18	Control N=22	Experimental N=18	Control N=22
NEW MEXICO CAREER EDUCATION TEST SERIES: Career Development Test (number of correct responses to 25 items)								
$\overline{X}$	14.59	14.50	15.37	16.58	16.11	18.18	15.28	18.14
SD	5.26	6.12	4.66	5.93	4.84	2.75	5.92	3.77
t value	0.06		-0.82		-1.61		-1.78	
Difference in gain score t value	-1.12				-0.43			
Pre-post gain within groups t value			0.95	2.52*			-0.50	-0.06

*Significant at the .05 level.

Question: Did EBCE students report more change in personal growth (such as self-reliance) and in interpersonal skills than did non-EBCE students?

The SPPS included an open-ended item that asked students to "name three ways that you have changed as a result of your school experiences this year." Coding for this question had been established from data collected from EBCE students and controls during a previous EBCE evaluation effort (see FWL-EBCE Final Evaluation Report, FY1975). For coding purposes the questionnaires from all sites (three experimental and three control) were combined with identification removed.

The results are summarized in Table 32. Some categories have been combined for presentation in the table. The self-growth area originally contained four specific content areas plus two others: a general maturation (non-specific in content) and a miscellaneous "other" category. Table 32 presents initially the percentage of total responses found in each of the six self-growth areas. The second portion of the table presents the proportions for the combined specific self-growth areas along with other content areas.

The data in Table 32 show end-of-year differences between experimental and control students at two locations and no apparent differences at the third location. The Highland experimental students reported more changes than the control students in all specific self-growth categories and most noticeably in the area of responsibility and independence. Pacific Horizons experimental students had more responses than their control counterparts in the categories of self-understanding and responsibility. The Pacific Horizons experimental group also had many more references to career knowledge and planning and relatively fewer in the learning/academic areas than did the corresponding control group. The third site, Edison, showed very similar response patterns for both experimental and control students.

Question: Did EBCE students develop a more positive attitude toward self and others than did non-EBCE students?

The Student Attitude Survey contains two subscales on attitudes toward self and others. Each subscale consists of a group of items to be rated on a five-point, agree-disagree scale. A comparison of pretest and posttest data

TABLE 32

STUDENTS' RESPONSES TO THE ITEM, "NAME THREE WAYS THAT YOU HAVE CHANGED AS A RESULT OF YOUR SCHOOL EXPERIENCES THIS YEAR"

Area of Growth Mentioned	Highland EBCE		Pacific Horizons		Edison EBCE	
	Experimental N=21	Control N=19	Experimental N=23	Control N=27	Experimental N=22	Control N=16
	%	%	%	%	%	%
Self Growth Categories						
1. Know more about self, self understanding	3	0	8	3	4	2
2. Socially more sure of self, less shy	11	6	4	8	7	10
3. Responsible, independent, work for and by self	18	8	8	3	16	15
4. Able to solve problems, make decisions, plan	11	6	5	5	9	10
5. General maturation, more adult	2	2	2	2	4	5
6. Other self growth	3	4	2	12	0	5
A. TOTAL SELF GROWTH	48	26	29	33	40	47
B. INTERPERSONAL GROWTH	13	27	25	28	25	19
C. LEARNING/ACADEMIC	23	18	13	28	15	17
D. CAREER KNOWLEDGE/PLANNING	14	19	27	6	15	12
E. NO CHANGE, NEGATIVE CHANGE	2	10	6	5	5	5
(Number of ResponsesP	(56)	(51)	(52)	(64)	(55)	(41)
CHI SQUARE for frequencies (categories A through E)	10.64*		11.08*		.79	

*Significant at .05 level.

collected from three sites is shown in Table 33.

All groups showed slight gains on the attitude toward self-measure -- no significant differences between groups were found. Little change in attitude was noted for any groups on the attitude toward others measure.

TABLE 33

COMPARISON OF STUDENT GROUPS ON THE ATTITUDE TOWARD SELF AND ATTITUDE TOWARD OTHERS SUBSCALES OF STUDENT ATTITUDE SURVEY

Score	Highland EBCE				Pacific Horizons				Edison EBCE			
	Pre		Post		Pre		Post		Pre		Post	
	Experi-mental	Control	Experi-mental	Control	Experi-mental	Control	Experi-nental	Control	Experi-mental	Control	Experi-mental	Control
STUDENT ATTITUDE SURVEY: Attitude Toward Self (mean item score for 19 items, 5-point scale)												
N	28	28	28	28	22	28	22	28	23	22	23	22
X̄	3.70	3.56	3.74	3.62	3.66	3.51	3.84	3.62	3.57	3.86	3.74	4.06
SD	.49	.67	.57	.57	.63	.48	.61	.51	.50	.53	.51	.91
t value	0.92		0.79		0.94		1.37		-1.92		-1.47	
Difference in gain scores t value	-0.20				0.70				-0.20			
STUDENT ATTITUDE SURVEY: Attitude Toward Others (mean item score for 13 items, 5-point scale)												
N	28	28	28	28	22	25	22	25	23	22	23	22
X̄	3.80	3.79	3.82	3.73	3.45	3.64	3.62	3.73	3.66	3.60	3.78	3.74
SD	.45	.48	.48	.43	.68	.70	.74	.49	.30	.48	.46	.45
t value	0.04		0.69		-0.94		-0.62		0.45		0.30	
Difference in gain scores t value	0.71				0.39				-0.13			

5.3 School-related Attitudes

All information in the area of school-related attitudes was collected from instruments developed by FWL-EBCE expressly for EBCE evaluation -- the Student Background Summary, the Student Plans and Perceptions Summary, and the Student Opinion Scales. These instruments have been described in Section 3.2. Further information is located in Appendix A. Specific items and subscales will be discussed in the process of describing the data and results.

Question: Did EBCE students have a more positive attitude toward school and learning than did non-EBCE students?

When students filled out the Student Background Summary during the pretest sessions they were asked, "How did you like school last year?" and "How did you like school in the years before last year?" (A rating scale provided five levels of responses from, "I disliked almost everything about it" (level 1), to "I liked and disliked it about equally" (level 3), to "I liked almost everything about it" (level 5). At the end of the school year students were asked to use the same rating scale to answer the question, "How did you like school this year?" Together, the pretest and posttest information provided students' estimates of attitude toward school over three time periods.

Table 34 shows means for each student group on the three questions. Experimental groups gained in mean score while control groups declined in mean score over the three intervals. Highland EBCE and Pacific Horizons had significantly higher means for ratings of this year's program, while control groups at Highland and Edison had significantly higher means for ratings of the preceding year's program. All comparisons of gain scores showed significant differences in favor of experimental groups.

The data of Table 34 are presented graphically in Figure 3. All control groups had initially higher mean ratings than their corresponding experimental groups and showed minor drops over the three time intervals. In contrast, the three experimental (EBCE) groups started with a relatively negative attitude but were strongly positive when rating their attitude toward the current year's program. The positive effect of the EBCE treatment is confirmed by the highly significant interaction in the F ratios displayed at the bottom in Figure 3.

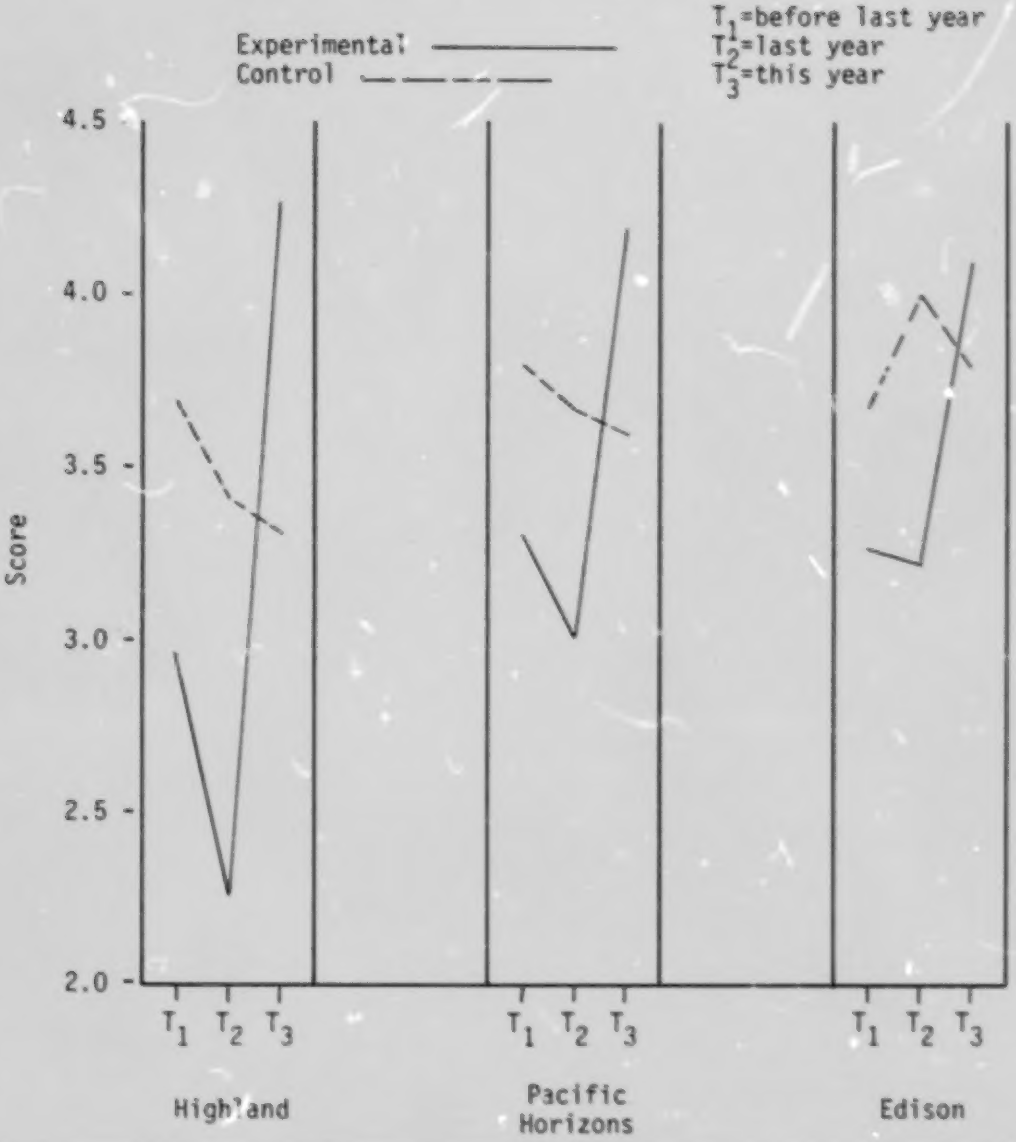
TABLE 34

STUDENTS' SELF-REPORT ON ATTITUDE TOWARD SCHOOL OVER THREE PERIODS OF TIME

"How Liked School" 5-point scale 1=very negative 5=very positive	Highland EBCE		Pacific Horizons		Edison EBCE	
	Experimental N=23	Control N=26	Experimental N=27	Control N=30	Experimental N=22	Control N=19
T_1: Before Last Year						
$\overline{X}$	2.96	3.69	3.30	3.80	3.27	3.68
SD	1.19	1.05	1.03	1.03	.83	.95
t-value	-2.30*		-1.84		-1.49	
T_2: Last Year						
$\overline{X}$	2.26	3.42	3.00	3.67	3.23	4.00
SD	.92	1.10	1.39	1.12	.92	.94
t-value	-3.99**		-2.00		-2.65*	
T_3: This Year						
$\overline{X}$	4.26	3.31	4.19	3.60	4.09	3.79
SD	.86	1.12	.79	.89	1.02	.85
t-value	3.30**		2.61*		1.02	
Difference in gain score t-value						
from T_1 to T_3	4.44**		3.48**		2.22*	
from T_2 to T_3	5.64**		3.88**		3.02**	

*Significant at the .05 level

**Significant at the .01 level



Analysis of Variance: f ratio					
Groups Trials Interaction	2.133 11.808** 19.087**		.954 4.844** 7.972**		2.011 4.298* 4.954**

*Significant at the .05 level
**Significant at the .01 level

FIGURE 3

GRAPHIC PRESENTATION OF STUDENTS' SELF-REPORTED ATTITUDE TOWARD SCHOOL OVER TIME

The data presented in Table 34 and in Figure 3 show that the EBCE program had a strong effect on student feelings about "school." The extent to which this change in attitude will be transferred to other school programs or to other aspects of learning cannot be readily determined. Additional information on this question will be presented when the School Opinion Scales (SOS) are discussed in Section 5.4.4. One of the subscales of the SOS was designed to reflect long-term attitudes toward school.

Question: Did EBCE students rate their school program as more helpful to them personally than did non-EBCE students?

Students were asked to rate their previous program (during the pretest) and their current program (during the posttest) in five areas of helpfulness. The areas represented legitimate concerns of all high schools, although the degree of emphasis may vary from one program to another. The questions, therefore, appear to be equally appropriate for EBCE and non-EBCE students. Each of the five items consisted of a statement to be rated on a four-point scale from "1 -- strongly disagree" to "4 -- strongly agree." The statements and the mean ratings for each statement by each group are shown in Table 35 along with associated statistical tests.

There are several points of interest in Table 35. First, all pretest means, with one exception, were lower for experimentals than for controls, while the reverse is true for the posttest means. That is, when compared with control students, experimental students moved from a generally lower rating of former school program to a higher rating of current program. No significant differences were found between experimental and control students at each program on ratings of preparation for college -- apparently both experimental and control students see their programs as helpful in this respect. The same appears to be true for the final item -- helping to get along with others -- all students saw their current programs as about equally helpful in this respect, although one group, Highland experimental, was noticeably lower than its control group in ratings of last year's program.

On each of the other three items EBCE students showed greater increase over the year than did the non-EBCE students; there was a significant difference between the gain scores of the corresponding experimental and control groups. In general, throughout this table the EBCE students tend to show positive growth while the

TABLE 35

STUDENTS' OPINION OF WAYS THAT THEIR SCHOOL WAS HELPFUL

Item 4-point scale: 1=strongly disagree 4=strongly agree		Highland EBCE				Pacific Horizons				Edison EBCE			
		Pre		Post		Pre		Post		Pre		Post	
		Experimental N=25	Control N=28	Experimental N=25	Control N=28	Experimental N=24	Control N=29	Experimental N=24	Control N=29	Experimental N=21	Control N=20	Experimental N=21	Control N=20
The school helped to prepare me for work	$\overline{X}$	1.84	2.29	2.96	2.50	2.07	2.59	3.04	2.83	2.29	2.57	3.19	2.48
	SD	.55	.76	.79	.88	.92	.57	.76	.66	.78	.75	.68	.81
	t value	-2.41*		1.99		-2.49*		1.11		-1.21		3.09**	
	difference in gain score t value	3.57**				3.07**				3.53**			
The school helped to prepare me for college	$\overline{X}$	2.36	2.43	2.88	2.61	2.36	2.72	2.56	2.79	2.62	2.70	2.95	2.80
	SD	.76	.69	.88	.83	.91	.80	.82	.56	.74	.73	.67	.62
	t value	-0.35		1.16		-1.57		-1.23		-0.35		0.76	
	difference in gain score t value	1.12				0.48				0.80			
The school helped me to decide what I want to do after high school	$\overline{X}$	1.84	2.37	3.04	2.26	2.13	2.41	3.25	2.45	2.14	2.50	3.10	2.50
	SD	.69	.69	.68	.71	.90	.82	.68	.57	1.01	.69	.70	.95
	t value	-2.78**		4.05**		-1.22		4.68**		-1.31		2.30*	
	difference in gain score t value	6.03**				4.27**				2.55*			
The school helped me to better understand myself	$\overline{X}$	1.80	2.39	3.08	2.29	2.00	2.52	2.96	2.69	2.40	2.45	3.10	2.60
	SD	.58	.79	.81	.76	.98	.83	.81	.71	.88	.51	.55	.68
	t value	-3.10**		3.67**		-2.08*		1.29		-0.22		2.55*	
	difference in gain score t value	4.91**				2.60*				1.93			
The school helped me to get along better with others	$\overline{X}$	2.21	2.89	2.88	2.71	2.38	2.72	2.96	2.79	2.81	2.75	3.05	2.80
	SD	.88	.79	.85	.71	1.06	.75	.81	.68	.60	.72	.67	.70
	t value	-2.96**		0.74		-1.40		0.81		0.29		1.16	
	difference in gain score t value	3.19**				1.62				0.66			

*Significant at the .05 level
**Significant at the .01 level

control students tend to show little change. It should be noted that most control students were rating the same program or the same kind of program in both sets of ratings while experimental students were rating a new educational experience at posttesting. The ratings support the position that when compared with control students, EBCE students found their current program more helpful than their former program in deciding what to do after high school, in self-understanding, and in preparation for work, all areas that are emphasized in the EBCE program.

Question: Did EBCE students feel that they learned more in their program about careers, getting along with other people, problem-solving, and basic skills than did non-EBCE students?

The items collecting information on the previous question covered broad areas that were applicable to any high school program. In contrast, the item used to address the above question was designed to reflect the learning objectives of FWL-EBCE. Students were asked at the end of the school year: "How much do you feel that you learned in your school program this year?" Twelve potential areas of knowledge acquisition or skills development were listed, each to be rated on a four-point scale (ranging from 1 = nothing, to 4 = a lot). The 12 areas are not intended to cover all areas where knowledge might be obtained in a high school program, but rather they are limited to those learning categories of primary interest to EBCE: career development/awareness, personal and interpersonal skills, and basic skills.

Data collected through the ratings of experimental students and control students are presented in Table 36 (Highland EBCE), Table 37 (Pacific Horizons), and Table 38 (Edison EBCE). At each pilot site, all 12 of the mean ratings of potential learning areas given by the experimental group were either significantly higher or not significantly different from those given by the control group. On the four career-related components, each experimental group gave significantly higher ratings than did its control group. Mean ratings by the experimental group for the components related to personal and interpersonal development were significantly higher than the ratings by the control group on all five components at Highland, and on two of the five at Edison. No significant differences between group means were found in the three ratings of improvement on basic skills.

TABLE 36

RATINGS OF LEARNING BY HIGHLAND STUDENTS IN THE AREAS OF CAREER DEVELOPMENT/AWARENESS, PERSONAL & INTERPERSONAL SKILLS, AND BASIC SKILLS

Item 4-point scale: 1=nothing 4=a lot	Experimental N=28		Control N=28		t-value
	$\overline{X}$	SD	$\overline{X}$	SD	
CAREER DEVELOPMENT/AWARENESS					
Learning about careers and jobs	3.71	.66	2.39	.79	6.82**
Learning how to do a particular job	3.43	.69	2.33	1.24	4.03**
Planning for a career or careers	3.39	.74	2.36	.91	4.67**
Learning job-seeking skills	3.32	.67	2.46	1.04	3.68**
PERSONAL AND INTERPERSONAL SKILLS					
Improving skills in working with adults	3.54	.64	2.43	.88	5.40**
Accepting many different ideas and backgrounds of people	3.61	.57	3.00	1.02	2.76**
Thinking through and solving problems	3.64	.49	2.39	.83	6.86**
Improving listening and speaking skills	3.46	.58	2.43	.96	4.90**
Improving skills in working with other students	3.21	.83	2.71	.90	2.16*
BASIC SKILLS					
Improving writing skills	3.04	1.00	2.71	1.08	1.15
Improving reading skills	2.75	.89	2.68	.77	.32
Improving math skills	2.18	1.19	1.93	.83	.91

*Significant at the .05 level
**Significant at the .01 level

TABLE 37

RATINGS OF LEARNING BY PACIFIC HORIZONS STUDENTS IN THE AREAS OF CAREER DEVELOPMENT/AWARENESS, PERSONAL & INTERPERSONAL SKILLS, AND BASIC SKILLS

Item 4-point scale 1=nothing 4=a lot	Experimental N=28		Control N=31		t-value
	$\overline{X}$	SD	$\overline{X}$	SD	
CAREER DEVELOPMENT/AWARENESS					
Learning about careers and jobs	3.68	.48	2.45	1.06	5.83**
Learning how to do a particular job	3.07	1.00	2.26	1.06	3.00**
Planning for a career or careers	3.32	.67	2.77	.88	2.66*
Learning job-seeking skills	3.14	.85	2.42	.89	3.20**
PERSONAL AND INTERPERSONAL SKILLS					
Improving skills in working with adults	3.07	.98	2.68	.91	1.60
Accepting many different ideas and backgrounds of people	3.04	1.00	2.94	.96	.39
Thinking through and solving problems	2.82	.94	3.16	.93	-1.39
Improving listening and speaking skills	2.77	.95	3.19	.75	-1.88
Improving skills in working with other students	2.50	1.00	2.84	.78	-1.46
BASIC SKILLS					
Improving writing skills	2.79	1.13	3.10	1.01	-1.11
Improving reading skills	2.86	1.15	3.00	.93	-0.53
Improving math skills	2.44	.93	2.61	1.02	-0.65

*Significant at the .05 level
**Significant at the .01 level

TABLE 38

RATINGS OF LEARNING BY EDISON STUDENTS IN THE AREAS OF CAREER DEVELOPMENT/AWARENESS, PERSONAL & INTERPERSONAL SKILLS, AND BASIC SKILLS

Item 4-point scale: 1=nothing 4=a lot	Experimental N=23		Control N=21		t-value
	$\overline{X}$	SD	$\overline{X}$	SD	
CAREER DEVELOPMENT/AWARENESS					
Learning about careers and jobs	3.48	.79	2.52	.87	3.81**
Learning how to do a particular job	3.43	.79	2.52	1.03	3.31**
Planning for a career or careers	3.35	.65	2.38	.86	4.22**
Learning job-seeking skills	3.09	.81	2.24	.77	3.54**
PERSONAL AND INTERPERSONAL SKILLS					
Improving skills in working with adults	3.61	.58	2.57	1.12	3.80**
Accepting many different ideas and backgrounds of people	3.55	.60	2.81	1.03	2.85**
Thinking through and solving problems	3.30	.93	3.00	.84	1.14
Improving listening and speaking skills	3.36	.90	2.95	.86	1.52
Improving skills in working with other students	3.22	.80	2.86	1.01	1.32
BASIC SKILLS					
Improving writing skills	2.96	.82	2.67	.97	1.07
Improving reading skills	2.91	1.00	2.81	1.08	0.33
Improving math skills	2.70	.97	2.90	1.02	-0.67

*Significant at the .05 level
**Significant at the .01 level

In summary: (1) EBCE students at all three sites rated their amount of learning significantly higher in career-related areas than did non-EBCE students; (2) EBCE students at two of the three sites rated their learning significantly higher in improving skills in working with adults and accepting people with different ideas/backgrounds than did non-EBCE students; (3) EBCE students at one of three sites rated their learning about problem-solving significantly higher than did non-EBCE students; and (4) no significant differences were discernible at any site between ratings by EBCE and non-EBCE students of their learning in basic skills.

Question: *Did EBCE students feel that their program provided more opportunity for autonomy than did non-EBCE students? Did EBCE students feel more positive about peer and staff relationships than did non-EBCE students?*

These questions are considered together because they are measured by subscales of the same instrument: the School Opinion Scales (SOS). The SOS consists of 30 statements about school and learning to be rated on a five-point scale, from "strongly disagree" (1) to "strongly agree" (5) (see Appendix A for a reproduction of the instrument). The first subscale, Student Learning Autonomy, consists of ten items related to freedom of choice and control over the learning environment. The second subscale, Long-Term Attitude Toward School and Learning, consists of six items. The third subscale, Attitude Toward Peers, consists of six items. The fourth subscale centers around staff interest in and involvement with students. Scores consist of the mean of the item scores for each subscale and the mean of the item scores for the total 30 items.

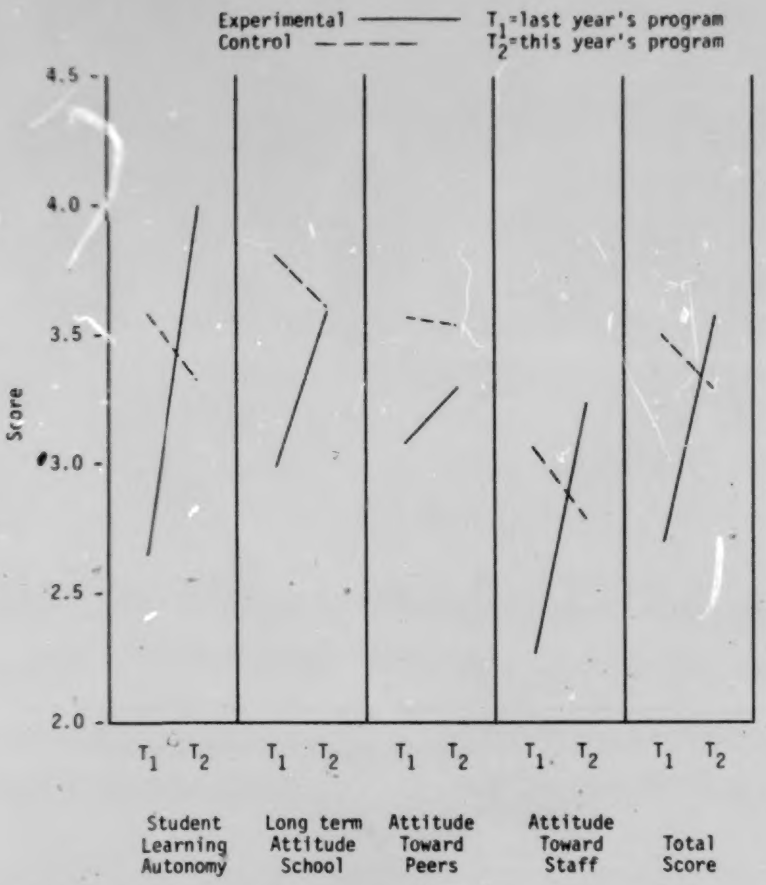
The SOS was given to all student groups at both pretest and posttest sessions. At the pretest session the students were asked to rate the program they attended previously while at the posttest sessions the students were asked to rate the program they currently attended. The pre-post comparison therefore is between last year's program and this year's program.

Subscore and total-score means and standard deviations for experimental and control groups are presented in Table 39. Associated statistics and graphic presentation of the data for each pilot site are found in Figure 4, Figure 5, and Figure 6. The patterns shown for experimental and control students at Highland (Figure 4) are quite different. Control students were

TABLE 39

SOS SUBSCALE SCORES AND TOTAL SCORE BY GROUPS FOR LAST YEAR'S AND THIS YEAR'S PROGRAMS

Scale		Highland EBCE				Pacific Horizons				Edison EBCE			
		Pre		Post		Pre		Post		Pre		Post	
		Experimental N=28	Control N=28	Experimental N=28	Control N=28	Experimental N=25	Control N=27	Experimental N=25	Control N=27	Experimental N=22	Control N=22	Experimental N=22	Control N=22
A. Student Learning Autonomy (mean for 10 items)	X̄	2.65	3.59	3.99	3.33	3.35	3.62	4.17	3.62	3.47	3.50	3.96	3.66
	SD	.49	.48	.53	.50	.84	.51	.44	.56	.72	.50	.51	.52
B. Long-Term Attitude Toward School (mean for 6 items)	X̄	2.99	3.81	3.59	3.61	3.49	3.80	3.81	3.70	3.35	3.91	3.67	4.04
	SD	.59	.50	.74	.67	.96	.62	.77	.72	.71	.70	.54	.64
C. Attitude Toward Peers (mean for 6 items)	X̄	3.08	3.57	3.29	3.54	3.43	3.97	4.01	3.83	3.17	3.70	3.25	3.61
	SD	.78	.66	.76	.47	.81	.41	.50	.43	.72	.46	.70	.55
D. Attitude Toward Staff (mean for 8 items)	X̄	2.27	3.06	3.24	2.80	3.07	3.38	3.78	3.27	3.01	3.05	3.43	3.02
	SD	.52	.54	.65	.59	.89	.59	.52	.58	.60	.56	.43	.73
TOTAL (mean for 30 items)	X̄	2.70	3.49	3.57	3.29	3.32	3.66	3.96	3.59	3.26	3.50	3.62	3.55
	SD	.44	.42	.56	.44	.71	.43	.45	.50	.51	.48	.42	.51

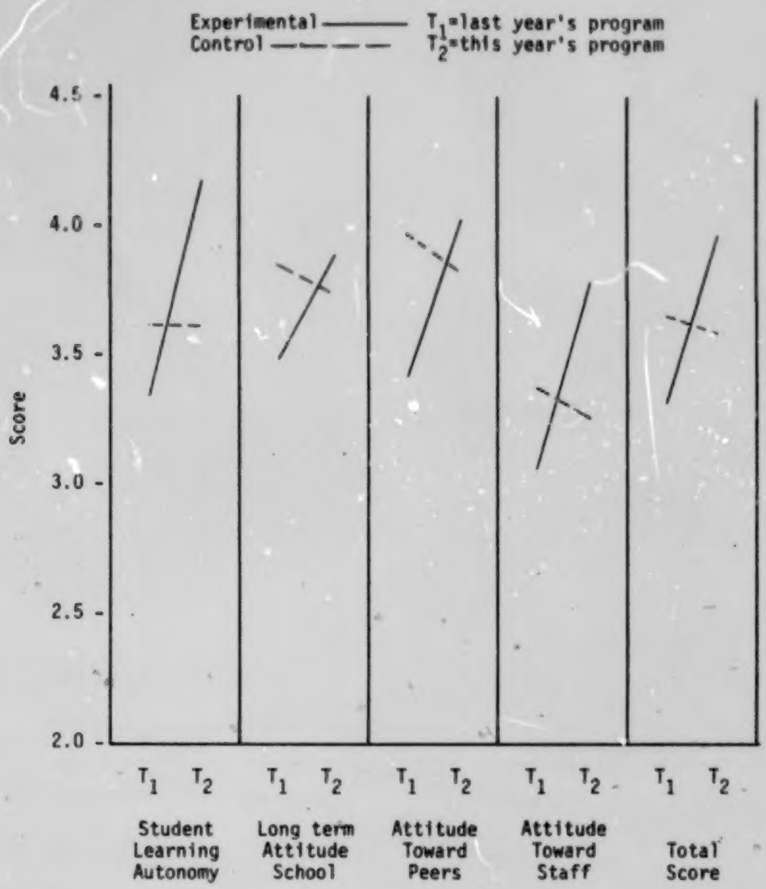


Differences between groups: t value					
Pre	-7.23**	-5.55**	-2.51*	-5.59**	-6.85**
Post	4.87**	-0.13	-1.52	2.64*	2.12*
Gain score	10.75**	4.52**	1.59	7.08**	8.73**
Differences within groups pre-post: t value					
Experimental	11.04**	4.58**	1.87	7.02**	8.87**
Control	-3.04**	-1.67	-0.25	-2.47*	-2.74*
Analysis of Variance: f ratio					
Groups	1.47	8.39**	5.01*	1.92	5.29*
Trials	51.91**	5.18*	1.59	16.75**	29.63**
Interaction	115.51**	20.43*	2.52	50.12**	76.29**

*Significant at the .05 level
**Significant at the .01 level

FIGURE 4

PLOT OF HIGHLAND GROUPS PRE AND POST SCORES ON THE SOS

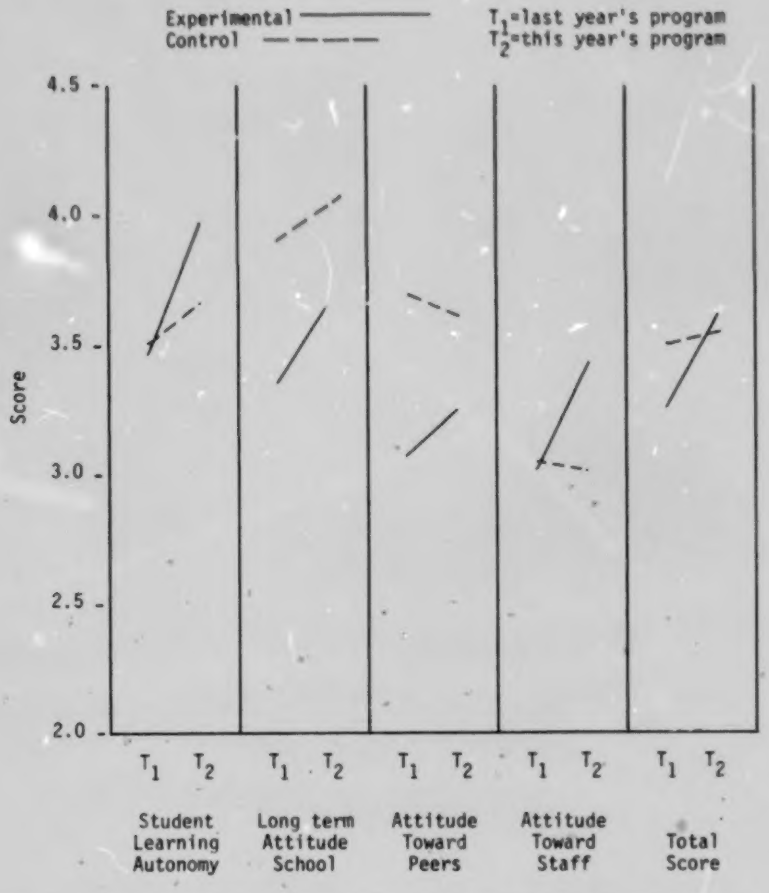


Differences between groups: t value					
Pre Post Gain score	-1.38 3.88** 4.54**	-1.40 0.50 2.27*	-2.98** 1.39 3.56**	-1.45 3.29** 4.67**	-2.09* 2.82** 5.24**
Differences within groups pre-post: t value					
Experimental Control	4.96** 0.00	1.97 -1.12	3.18** -1.61	4.39** -1.59	4.97** -1.66
Analysis of variance: f ratio					
Groups Trials Interaction	0.92 20.14** 21.74**	0.30 1.29 5.35*	2.23 4.51* 13.30**	0.39 11.66** 23.06**	0.02 16.65** 29 20**

*Significant at the .05 level
**Significant at the .01 level

FIGURE 5

PLOT OF PACIFIC HORIZONS GROUPS PRE AND POST SCORES ON THE SOS



Differences between groups: t value					
Pre	-0.15	-2.63*	-2.90**	-0.26	-1.61
Post	1.92	-2.09*	-1.91	2.30*	0.45
Gain score	1.36	0.91	0.79	2.34*	1.78
Differences within groups pre-post: t value					
Experimental	2.22*	1.86	0.45	2.42*	2.32*
Control	1.71	1.09	-0.83	-0.39	0.74
Analysis of variance: f ratio					
Groups	1.21	7.83**	8.42**	1.57	0.56
Trials	7.38**	4.61*	0.00	3.98*	5.85*
Interaction	1.85	0.83	0.63	5.49*	3.17

*Significant at the .05 level
**Significant at the .01 level

FIGURE 6

PLOT OF EDISON GROUPS PRE AND POST SCORES ON THE SOS much more positive than experimental students about their last year's program with mean ratings above the midpoint for all scores. However, the control group's scores declined over the year. In contrast, the Highland EBCE students gained significantly in three of the subscores and in the total score as well. The gains were particularly noticeable in Student Learning Autonomy and in Attitude Toward Staff, which together reflect the likelihood of a greatly improved learning atmosphere. Both of these scores moved from well below the midpoint of the scale (for the pretest) to well above the midpoint (for the posttest). The control group showed significant drop in score from pretest to posttest on the same items.

When considering long-term attitude toward school, the experimental group demonstrated an improved attitude that enabled posttest means to be about the same as for the control group. For this subscale as well as for those on student learning autonomy and attitude toward staff, the F-ratios for the interaction were highly significant.

There also seem to be differences between the groups that are not due to their programs of enrollment. The control-group members continued to be more positive about peer relationships than did the EBCE students. Table 36 indicates that major improvements for Highland EBCE students were in the areas of improving skills in working with adults; lower gains were reported for improving skills in working with students. The data of Table 35 are consistent with this: no significant difference was found in posttest students' ratings of school's help in learning to get along better with others. It would appear that Highland EBCE students' reported improved interpersonal skills are largely due to their improved skills in working with adults and to improved attitudes toward staff, and not to improved peer relationships.

Overall, the data for Highland experimental and control groups give a strong and statistically significant picture of program-related change. This is shown by highly significant ratios for all interactions (except for that of Attitude Toward Peers). The strongest gains are related to the learning environment, both in terms of student autonomy and relationship with staff, and these items have contributed heavily to the improvement shown in total score. Possible differences between groups, independent of treatments, are likely both for long-term attitude toward school and for peer relationships. The data indicate that there may have been true initial differences between the two groups (i.e., at pretest the control group scored higher on every scale) but that the group of EBCE students has more than compensated for these by truly impressive posttest gains on the SOS scales.

Data for the Pacific Horizons experimental and control groups are presented in Figure 5. The data here are highly consistent over the four subscores and the total score. The control group was consistently higher on all pretest scores--significantly so for the Attitude Toward Peers subscale as well as for the total score. The control group showed small non-significant drops on all scores over the year. The experimental group had pretest scores slightly above scale midpoint (3.07 to 3.49) on all subscales. A comparison of experimental group gain scores from pre to post was significant for all the subscales and for the total score (means for post scores ranged from 3.78 to 4.17). The F-ratio for interaction between groups and treatment was also significant for all subscales and for total score.

The experimental group significantly surpassed the control group on the Student Learning Autonomy and Attitude Toward Staff subscores as well as on the total score. This indicates a strong support for the learning environment in the EBCE program as compared with control group members' feelings for these elements in their programs. Although experimental students made significant gains in the items measuring Long-term Attitude Toward School and Attitude Toward Peers, these gains mainly offset previously low scores--students in both groups appeared to have similar attitudes at the end of the year.

In summary, at Pacific Horizons the control students were initially more positive in their composite school-related attitude than experimentals but they showed little change over the school year. Experimental students showed significant growth over the year in most attitudinal areas measured and were significantly more positive in their composite school-related attitude than control students at the end of the year. On items in the areas of student learning autonomy and attitude toward staff, the end-of-year mean scores of experimental students were significantly more positive than control students. On items in the areas of attitude toward peers and long-term attitude toward school, pretest significant differences in means in favor of the control students disappeared at posttest.

Edison experimental and control group scores are displayed graphically in Figure 6. The data show quite different initial responses to the four subscales. Edison experimental-group and control-group students had very similar pretest scores for the Student Learning Autonomy and the Attitude

Toward Staff subscales, but experimental students were much more negative on the Long-Term Attitude Toward School and Attitude Toward Peers subscales. The control group maintained amore positive long-term attitude toward school during the year and continued to be more positive than the experimental group in attitude toward peers; such initial differences in attitude may, of course, have been instrumental in EBCE student decisions to transfer into a new program. It should also be noted that there are some social peer problems presented by the influx into Edison High School EBCE program of students who are not representative of the social and ethnic background of the Edison school population (see discussion above in Section 2.3.1). The most noticeable area of change in the group of EBCE students is in its improved mean score on the Attitude Toward Staff subscale. This subscale initially had the lowest mean score of the four subscales for both experimental and control groups, and only the experimental group made a significant gain over the year. The F-ratio for interaction between groups and treatment was also significant for the Attitude Toward Staff subscale.

It appears, therefore, that throughout the year the Edison EBCE students had somewhat more negative feelings about peers than did control students; it also appears that they developed far more positive attitudes toward staff than did control students during the period between pretest and posttest. This is supported by the data in Table 38, which show that while EBCE students felt that they had gained more knowledge about working with adults and had become more accepting of different ideas and social backgrounds, they did not perceive having gained a significantly greater amount of skill in working with other students.

5.4 Basic Skills

Question: Did EBCE students progress in basic skills at a rate at least equal to the rate of progress of non-EBCE students?

Basic skills progress was measured by the use of a standardized instrument -- The Comprehensive Tests of Basic Skills. Three subtests were administered: Reading Comprehension, Arithmetic Concepts, and Arithmetic Applications. A discussion of the instrument is located in Section 3.2 and in Appendix A. Information on student groups was presented in Section 4.

Table 40 presents the data for those students who completed the CTBS at both pre- and posttest sessions. The number of students completing both the pretest and the posttest was small for two of the student groups: Pacific Horizons control and Edison experimental. Because there is a substantial amount of missing data at these two sites,* Table 40 should be interpreted with care. Nevertheless, there is strong indication from the data of Table 40 that EBCE students did progress in basic skills at a rate at least equivalent to the progress rate of non-EBCE students: no significant differences were found between the experimental and control groups at Highland EBCE and Edison EBCE. At Pacific Horizons the experimental group gained significantly in two areas -- reading comprehension and arithmetic concepts.

---

*At the Pacific Horizons site, many of the control students objected to a basic-skills assessment; at the Edison site, several of the experimental students did not participate in the district-wide basic skills assessment program used as the data source.

TABLE 40

PRE AND POST SCORES OF GROUPS ON THE READING COMPREHENSION, ARITHMETIC CONCEPTS, AND ARITHMETIC APPLICATIONS SUBTESTS OF THE CTBS

CTBS Scale Scores		Highland EBCE				Pacific Horizons				Edison EBCE			
		Pre		Post		Pre		Post		Pre		Post	
		Experimental	Control	Experimental	Control	Experimental	Control	Experimental	Control	Experimental	Control	Experimental	Control
READING COMPREHENSION	N	28	28	28	28	26	13	26	13	12	41	12	41
	$\overline{X}$	626.6	624.0	645.0	621.7	560.5	556.0	595.3	524.2	659.7	638.6	645.4	641.2
	SD	95.4	87.1	88.7	80.6	84.5	77.7	98.9	84.9	79.7	92.6	63.2	101.0
	t value	0.110		1.030		0.160		2.213*		0.712		0.136	
	Difference in gain score t value	1.604				3.022**				-0.948			
ARITHMETIC CONCEPTS	N	28	28	28	28	26	12	26	12	12	41	12	41
	$\overline{X}$	596.7	580.0	607.0	591.5	505.7	580.9	541.8	564.0	601.8	612.0	605.8	618.8
	SD	77.5	69.1	78.1	72.8	101.6	73.3	71.4	90.6	97.8	114.7	115.0	101.8
	t value	0.852		0.767		-2.295*		-0.816		-0.279		-0.380	
	Difference in gain score t value	-0.117				2.080*				-0.123			
ARITHMETIC APPLICATIONS	N	28	28	28	28	26	12	26	12	12	41	12	41
	$\overline{X}$	591.3	580.1	597.2	585.8	542.4	520.3	540.0	548.4	597.3	599.1	540.3	592.5
	SD	77.7	84.1	73.8	83.6	102.1	78.2	96.8	88.2	122.6	104.9	89.3	119.3
	t value	0.515		0.54		0.663		-0.257		-0.049		-1.400	
	Difference in gain score t value	0.019				-1.263				-1.873			

*Significant at the .05 level
**Significant at the .01 level

6. FINDINGS OF THE PROGRAM PERCEPTIONS AND PROGRAM OUTCOMES STUDY

6.1 Student Information

Question: Did students like the EBCE program?

EBCE students were asked to complete a questionnaire (EBCE Perceptions Survey) on their perceptions of the EBCE program at the end of the year. Information was collected from all EBCE students (including second-year students) at two sites -- Highland EBCE and Pacific Horizons. Table 41 presents students' ratings of the effectiveness of the EBCE program and the quality of resource experiences. Students at Highland rated all items very high (means from 4.24 to 4.69 on a five-point scale). Students at Pacific Horizons rated the items slightly lower (means between 3.84 and 4.30). In general, student perceptions of the EBCE program and of the quality of resource experiences were positive.

Question: Did students feel the program functioned well?

All EBCE students were asked to rate 19 EBCE program activities in terms of how successful the activity had been for the student. The five-point scale ranged from 1 (not at all successful for you) to 5 (very successful for you). Results are presented in Table 42. Differences between programs are clearly evident from Table 42. Students at the two sites agreed on only four out of the top eight items: learning to make decisions, learning about possible careers, learning about oneself, and carrying out projects. Among the activities rated most effective for Highland EBCE students were four having to do with visiting resources. These items were all ranked low by Pacific Horizons students. In contrast, Pacific Horizons students included in the top eight a group of four items having to do with staff-student interactions: planning for a future career, meeting with LCs, going to advisory group meetings, and evaluating your own work. All of these items were ranked low by Highland students -- planning for a future career, the highest-ranked item for Pacific Horizons, was ranked 12th by Highland students.

These data reflect program emphases that were discussed previously in sections 2.1 and 2.2. The Highland EBCE program stressed the development and maintenance of a resource pool and the use of this pool by students. Pacific

TABLE 41

STUDENTS' PERCEPTIONS OF THEIR EBCE ACTIVITIES

Item 5-point scale; 1=definitely no or very much 5=definitely yes or very much	Highland EBCE N=43								Pacific Horizons N=46							
	Frequencies						$\overline{X}$	SD	Frequencies						$\overline{X}$	SD
	1	2	3	4	5	Omit			1	2	3	4	5	Omit		
If you had it to do over again, do you think that you would participate in the EBCE program?	0	1	3	9	30	0	4.58	.73	3	2	1	9	25	6	4.28	1.22
How much did you like the way of learning (relating study to experience at resource sites) that is used in the EBCE program?	0	1	0	8	33	1	4.74	.59	2	0	3	14	21	6	4.30	.99
In comparison with your past experiences in regular schools, how motivated were you to learn in the EBCE program?	0	1	1	8	32	1	4.69	.64	5	0	4	10	20	7	4.03	1.35
In general, have the persons at the resource sites you've visited been interested in the EBCE program?	0	1	3	10	28	1	4.55	.74	3	1	3	9	24	6	4.25	1.19
Have you had enough choice in deciding what to do at resource sites?	0	0	9	14	19	1	4.24	.79	3	1	10	10	16	6	3.88	1.20
In general, at resource sites, did you get to actually do things, rather than just watch or listen?	1	0	7	6	27	2	4.41	.95	6	1	5	7	19	8	3.84	1.48

TABLE 42

STUDENTS' RATINGS OF SUCCESS OF VARIOUS EBCE ACTIVITIES

Activities (taken from list of 19 to be rated on 5-point scale: 1=not at all successful to 5=very successful)	Highland EBCE N=43			Pacific Horizons N=40		
	Rank	$\overline{X}$	SD	Rank	$\overline{X}$	SD
Activities ranked in top 8 by both sites						
Learning to make decisions	1	4.52	.67	3	4.28	.85
Learning about possible careers	2	4.40	.66	2	4.33	.73
Learning about yourself	3	4.35	.97	5	4.20	.97
Carrying out projects	7	4.14	.86	8	3.92	1.06
Activities ranked in top 8 by one site						
Visiting Resource Organizations	4	4.33	.71	(16)	3.73	1.24
Visiting Resource Persons	5	4.30	.71	(10)	3.90	1.14
Visiting community resources	6	4.19	.83	(13)	3.83	1.26
Doing resource explorations	8	4.12	.74	(14)	3.80	.97
Planning for a future career	(12)	3.90	1.18	1	4.35	.87
Meeting with LCs	(17)	3.53	1.18	4	4.23	.84
Going to advisory group meetings	(19)	3.14	1.15	6	3.98	.83
Evaluating your own work	(10)	4.02	.90	7	3.95	.99
Activities not ranked in top 8 by either site						
Learning subject matter	9	4.0	.70	10	3.90	.91
Managing your own time	11	4.0	.96	12	3.85	1.10
Doing resource orientations	13	3.83	.93	17	3.67	1.06
Improving basic skills	14	3.74	.85	15	3.78	.95
Planning projects	15	3.72	.80	10	3.90	.94
Using the resource center	16	3.55	1.19	19	3.10	1.35
Learning academic subjects	18	3.48	.83	18	3.38	1.16

hand, had problems in resource maintenance and use and placed more program emphasis on staff-directed activities. It should be noted, however, that although students at the two sites differed in the relative rankings of activities, they agreed in rating all activities positively. Means for all activities were above the midpoint of the scale, showing that students had overall favorable impressions of the success of important components of the EBCE program.

Question: Did students earn normal amounts of credit toward their graduation?

Table 43 presents information on credits earned by EBCE students. Highland students earned the appropriate amount of credit for seniors. At the other two sites, mean credits fell below the districts' standards for a full student program, but the amount of credit earned was considered satisfactory by each operating program because of certain characteristics of its EBCE student body. The most important factor is that many students were near graduation and did not need to gain a full set of credits for the final semester or two of high school. This is particularly true of the Edison site, where most students were in the upper grades. An associated condition, particularly evident at Pacific Horizons, was the presence in the program of students who had previously been low achievers; these students may have entered the program with a small number of credits completed and continued to earn fewer units than students in the regular high school program. Pacific Horizons, a school with a continuation school status, did not require all students to attend for more than the minumum four-hour day required by state law. Students attending fewer hours earned fewer credits.

6.2 Perceptions of Parents of EBCE Students

Question: Did parents like the program and feel that it benefitted the student?

At the end of the school year, a questionnaire was mailed to all parents of currently enrolled EBCE students in the three pilot sites. Lists of parents' names and addresses were provided by the programs and the questionnaire was sent from and returned to Far West Laboratory. Parents were not asked to identify themselves on the questionnaire. The return rate differed by site. Sixty-nine questionnaires were sent to Highland parents and 38 were received

TABLE 43

CREDITS EARNED BY EBCE STUDENTS

Item	Highland EBCE	Pacific Horizons	Edison EBCE
District standard for credit to be earned per semester	2.0 units	30 units	30 units
First Semester:			
N	69	56	36*
Total credits	145.75	1117	924
Mean credit	2.11	19.95	25.67
Second Semester:			
N	74	56	--**
Total credits	160.0	1233	--**
Mean credit	2.16	22.02	--**

*Only students in program for both fall quins.
**Data not available.

by Far West Laboratory, for a return rate of 55%. Return rates for the other two sites were much lower -- 29% for Pacific Horizons (17 out of 59) and 28% for Edison (19 out of 66). Because of the low number of respondents at these sites, the data should be interpreted with care -- views of these parents might not represent the views of the total group of parents.

Parents were asked to indicate how much their son or daughter had changed as a result of participation in EBCE. Seven areas of possible change were to be rated on a five-point scale from "1 = much change for the worse," to "5 = much change for the better." Data from respondents are presented in Table 44. Those parents responding to the questionnaire tended to feel that their son or daughter had changed positively as a result of the EBCE experience.

Parents were asked to rate the helpfulness of the EBCE program in five areas. The data are presented in Table 45. Although most responses were very positive, there were some difference amoung the sites. Highland parents saw the program as most helpful in preparation for work, Edison parents in planning for the future, and Pacific Horizons parents in self-understanding. Most parents also felt that the EBCE program was much better than the program previously attended by the student and that the student talked more to them about school experiences. These data are presented in Table 46.

The parents were asked for their opinions of program effectiveness as shown in Table 47. Most parents would want their son or daughter to participate again, although a few would not (as shown by the large standard deviation on this item). Parents generally gave high ratings to staff effectiveness in planning suitable learning programs and handling student problems. They were less sure that they had received enough information about their son's or daughter's progress in the program.

In summary, most of the parents responding to the questionnaire felt very positive about the way that their son or daughter had responded to the EBCE program and felt that the program was both helpful and effective.

6.3 Perceptions of Resources

Perceptions of resources were collected through a mail questionnaire. The questionnaire was sent by and returned directly to Far West Laboratory. No follow up was possible as respondents were not identified. Highland EBCE

TABLE 44

PARENTS' RATINGS OF STUDENTS' CHANGE AS A RESULT OF EBCE

Area of Change 5-point scale; 1=much change for worse 5=much change for better	Highland EBCE N=38		Pacific Horizons N=17		Edison EBCE N=18	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Interest in school	4.00	1.01	4.41	1.00	4.21	.63
Motivation to learn	3.92	.91	4.35	1.00	4.44	.70
Amount of school work he/she does	3.76	1.05	4.18	.73	4.06	1.11
Responsibility	4.05	.96	4.35	.70	4.33	.84
Self-confidence	3.92	.85	4.29	.77	4.39	.78
Ability to make decisions	3.89	.76	4.31	.79	4.26	.81
Ability to plan for the future	3.89	.80	4.33	.72	4.53	.70

TABLE 45

PARENTS' RATINGS OF THE HELPFULNESS OF EBCE TO STUDENTS

Item 4-point scale; 1=strongly disagree 4=strongly agree	Highland EBCE N=37		Pacific Horizons N=16		Edison EBCE N=19	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
The school helped in preparing for work	3.18	.56	3.29	.77	3.16	.69
The school helped in preparing for college	2.84	.80	3.13	.81	3.00	.75
The school helped in deciding on what to do after high school	3.00	.63	3.25	.93	3.21	.63
The school helped in self-understanding	3.00	.78	3.38	.81	3.06	.64
The school helped in getting along better with others	3.05	.77	3.18	.73	3.06	.78

TABLE 46

PARENTS' COMPARISON OF EBCE TO PREVIOUS PROGRAMS OF STUDENTS

Item 5-point scale; 1=much worse, much less 5=much better, much more	Highland EBCE N=37		Pacific Horizons N=17		Edison EBCE N=19	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
How does the EBCE program compare with other school programs which your son or daughter has attended?	3.97	1.01	4.29	1.05	4.58	.84
Compared with previous years, how much does your son or daughter talk to you about school experiences?	3.71	1.27	4.29	1.16	4.05	.78

TABLE 47

PARENTS' OPINIONS OF THE EFFECTIVENESS OF EBCE

Item 5-point scale; 1=Definitely no 5=Definitely yes	Highland EBCE N=38		Pacific Horizons N=17		Edison EBCE N=19	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
If you had it to do over again, would you want your son or daughter to participate in the EBCE program?	4.11	1.23	4.29	1.36	4.83	.71
Was the EBCE staff effective in helping your son or daughter plan a learning program suited to his/her needs?	4.16	.86	4.41	1.00	4.58	1.02
Was the EBCE staff effective in handling any problems that developed with your son or daughter during the school year?	3.97	1.09	4.13	.89	4.58	.96
Do you get all the general information you want about the program?	3.95	1.29	4.12	.78	3.78	1.35
Do you get all the information you want about your son or daughter's progress and performance in the EBCE program?	3.74	1.31	3.88	1.05	3.68	1.34

provided a list of 70 resources to whom questionnaires should be sent. Forty-four of these resources did return the questionnaire for a response rate of 63%. Pacific Horizons provided a list of 50 resources; 15 completed and returned the questionnaire for a response rate of 30%. Six more resources returned it with a statement that they were unable to complete it because of insufficient contact with or involvement in the program. The rate of return for Edison resources was 33%; out of 124 questionnaires mailed, 41 were returned completed. Seventeen additional questionnaires mailed to Edison resources were returned with statements that they either were no longer part of the program or that they had had insufficient contact with the program to respond.

Question: Did resources value participation in the program?

As shown in Table 48, respondents at all three sites placed a high value on their own participation in EBCE (means from 3.33 to 3.50 on a four-point scale). Value to the resource organization was more pronounced at the Highland site where more resource persons were placed within large organizations. Resource opinion on the value of EBCE to the students was more divergent from a mean of 3.20 at Pacific Horizons to a mean of 3.73 at Highland. However, all mean ratings were definitely positive and show that those resources who responded to the questionnaire felt that participation was of value for themselves, their organizations, and the students.

Table 49 presents resource ratings of two key opinion items. Resources at all three sites feel strongly that they will continue to participate and they will also recommend participation to others.

Question: Did resources feel that the program functioned well?

Although most resource respondents felt that the program functioned well, there were some who differed as shown in Table 50. Almost all resources felt that student activities had matched their original concept of EBCE. Most resources felt that the program had taken less of their time than they had expected. However, a majority of respondents at Pacific Horizons and Edison reported that they had not had enough contact with the EBCE staff. The same trend is shown in Table 51, where student and staff relationships are examined.

TABLE 48

RESOURCES' JUDGMENT OF THE WORTH OF PARTICIPATION IN EBCE

Item 4-point scale 1=undesirable 4=very desirable	Highland EBCE		Pacific Horizons N=15		Edison EBCE N=40	
	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD
In terms of your own experiences -- weighing costs, benefits, and other contributing factors -- how do you feel about participation in the EBCE program:						
By you	3.50	.67	3.40	.91	3.33	.76
By your organization	3.37	.72	3.14	.86	3.18	.90
By students in your community	3.73	.50	3.20	.77	3.44	.68

TABLE 49

TWO ITEMS INDICATING RESOURCES' OPINIONS OF THE WORTH OF EBCE TO THEM PERSONALLY

Item 4-point scale 1=Definitely no 4=Definitely yes	Highland EBCE N=43		Pacific Horizons N=14		Edison EBCE N=38	
	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD
Do you plan to continue to participate in the EBCE program?	3.73	.50	3.38	.77	3.29	.80
Would you recommend to other organizations or individuals that they become involved in the EBCE program?	3.70	.46	3.43	.85	3.49	.76

TABLE 50

RESOURCES' RATINGS OF ACTIVITIES AT THEIR SITES

Item 4-point scale 1=definitely no 4=definitely yes	Highland EBCE							Pacific Horizons							Edison EBCE						
	Frequencies					$\overline{X}$	SD	Frequencies					$\overline{X}$	SD	Frequencies					$\overline{X}$	SD
	1	2	3	4	Omit			1	2	3	4	Omit			1	2	3	4	Omit		
Did the student activities that took place at your site fit the original understanding you had of EBCE activities?	1	7	14	22	0	3.30	.82	3	0	2	8	2	3.15	1.28	2	6	10	21	2	3.28	.92
Has participation in EBCE activities taken more or less time than you originally expected?	1	29	11	1	2	2.29	.55	4	7	2	1	1	2.00	.88	11	21	5	2	2	1.95	.79
Did you have enough contact with the EBCE staff this year?	3	7	19	15	0	3.05	.89	5	4	2	3	1	2.21	1.19	12	14	7	5	3	2.13	1.02

TABLE 51

RESOURCES' RATINGS OF EBCE STUDENTS AND STAFF

Item 4-point scale 1=never satisfactory 4=always satisfactory	Highland EBCE N=44		Pacific Horizons N=14		Edison EBCE N=36	
	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD
STUDENT:						
Behavior at the site	3.73	.45	3.71	.61	3.51	.72
Interest in site activities	3.16	.61	3.27	.70	3.28	.65
Reliability in keeping commitments	3.14	.70	3.20	1.01	3.15	.82
Responsibility for own decisions	3.05	.68	3.00	1.00	3.17	.77
Management of time	2.93	.66	3.00	.96	3.08	.80
STAFF:						
Assistance with student problems	3.52	.66	2.83	1.27	2.68	1.08
Assistance in planning meaningful student activities	3.25	.61	2.77	1.17	2.50	1.03
Conversation, correspondence, and visits by staff members	3.50	.73	2.38	1.33	2.39	1.18
Feedback on students who completed projects	3.09	.94	2.08	1.32	2.26	1.08

Resources at all three sites rated the students highly for general behavior and for interest, reliability, management of time and responsibility. However, respondents at only one site -- Highland -- rated staff activities highly. Although resources of Pacific Horizons and Edison EBCE saw staff assistance with student problems and in planning student activities as somewhat satisfactory, they were dissatisfied with the staff contacts in the form of visits and correspondence and in feedback on students who completed projects.

Resources not only felt that student behavior was satisfactory, but they also felt that students had had access to a variety of learning experiences. Table 52 presents resource ratings of the availability of learning experiences in twelve areas. These same items had been presented to students. It can be seen that resources rate the availability of experiences in about the same rank order as do students. At two sites, the most opportunity is seen in career development activities, especially learning about careers. Opportunity is also seen for development of personal and interpersonal skills and this is particularly emphasized at Pacific Horizons. Some opportunity is seen for basic skills improvement with the Edison resources rating these areas lower than the other sites.

In summary, resources saw the program as worthwhile for students and for themselves. They felt largely satisfied with student behavior and saw a variety of learning experiences available to students. Although students activities matched resource expectations, the level of staff contact was less than satisfactory at two sites. In fact, all three sites would have liked more feedback on student progress -- this in itself is indicative of a continued resource interest in the EBCE program which is also shown in the fact that almost all resources plan to remain in the program.

TABLE 52

RESOURCES' RATINGS OF THE AVAILABILITY TO STUDENTS OF EXPERIENCES RELATED TO PROGRAM OBJECTIVES

Item 4-point scale 1= nothing 4= a lot	Highland EBCE N=43		Pacific Horizons N=15		Edison EBCE N=38	
	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD
Career Development Awareness						
Learning about careers and jobs	3.51	.59	3.27	1.10	3.43	.71
Learning how to do a particular job	3.09	.95	3.07	1.28	2.66	1.12
Planning for a career or careers	3.05	.69	3.00	1.13	3.10	.75
Learning job-seeking skills	2.63	.90	2.53	1.25	2.37	.91
Personal and Interpersonal Skills						
Improving skills in working with adults	3.19	.76	3.27	1.10	3.00	.93
Accepting many different ideas and backgrounds of people	3.21	.80	3.40	.74	2.92	1.05
Thinking through and solving problems	3.10	.73	3.40	.99	2.49	.99
Improving listening and speaking skills	2.91	.78	3.07	1.22	2.53	1.03
Improving skills in working with other students	2.21	1.04	2.87	1.13	1.89	1.01
Basic Skills						
Improving writing skills	2.23	.92	2.13	1.06	1.50	.73
Improving reading skills	2.00	.85	2.20	1.08	1.55	.69
Improving math skills	1.70	.77	1.53	.99	1.26	.50

7. SUMMARY AND CONCLUSIONS

7.1 Evaluation Purposes

The Far West Laboratory EBCE model* has been undergoing internal evaluation from its inception in 1972. During the developmental stage, efforts focused on formative evaluation, and these were followed by summative evaluation of the stabilized operation at the demonstration site. As the model became ready for dissemination the evaluation focus shifted and new questions were addressed: What changes would occur as the model was adopted in new settings?" and "What would be the effects of these new EBCE programs on students?"

The current evaluation is based on data collected during the 1976-77 school year and represents the culmination of several years of related evaluation efforts. It examines the impact of FWL-EBCE on students in three second-year FWL-EBCE programs. These three sites were studied during the previous year as the programs were put into operation and the unique qualities of each were documented. Local program adaptations at these three sites have continued and further documentation of such changes is included in this report.

The report seeks to examine the robustness of the EBCE model -- its ability to provide effective student outcomes under varying conditions. It really should not be viewed as an evaluation of three programs, but rather as an evaluation of one program, FWL-EBCE, as implemented at three locations. One basic evaluation design was used to examine the same student outcomes at three sites, although variations in the basic design were necessary at each of the sites because of local factors. Therefore, we are dealing with three replications of the FWL-EBCE model evaluated under constraints imposed by local conditions. There is one overall evaluation concern: Did EBCE provide the desired student outcomes, as demonstrated by students and as perceived by students, parents and community resources?

7.2 Program Variations

EBCE programs may be established and may flourish in many different physical settings as demonstrated by variations among the programs at the three sites under evaluation. One program, Edison EBCE, was established as a high school department -- students take supplementary courses in the regular school. Highland EBCE, on the other hand, while located within the Highland High School, functions more as a "school within a school" and provides the total curriculum for its students. Pacific Horizons is an independently housed alternative school that has incorporated and adapted the FWL-EBCE model as its basic curriculum: it is considered "Pacific Horizons High School" rather than "Pacific Horizons EBCE" while both other sites consider themselves "EBCE programs" within a high school.

---

*Described comprehensively in Section 1.2.

All three schools share the concept of volunteer student enrollment but, while Highland EBCE draws students mainly from within its own high school, Edison EBCE was set up as a magnet, in-school program to draw students from throughout the district, and Pacific Horizons was implemented as an autonomous, alternative program for students throughout the district.

As suggested by the variations in settings and in target populations, local adaptations were also made in use of the model. The Highland site implemented a FWL-EBCE program with primary emphasis on older (i.e., twelfth-grade) students, use of projects, and community involvement. FWL considers Highland EBCE as a high-fidelity replication of the FWL-EBCE model.

The Edison EBCE program stresses the career development and project-related aspects of the EBCE model. Students may be involved in the program for relatively short periods of time because the district uses nine-week terms and allows easy transfer in and out of the EBCE program. Edison EBCE students may have less identification with their high school because most have transferred to the school only to try EBCE. Since the average Edison EBCE student remains in the program for well under a year, the program emphasis has been on short-term, career-related student objectives. The Edison EBCE program is considered by FWL as a high fidelity FWL-EBCE program, although with somewhat less scope than the Highland program.

Pacific Horizons provides an alternative program for students who are not functioning well within the conventional school. The staff is primarily concerned with improving student motivation and upgrading basic skills; more time than in the other two FWL-EBCE programs is spent on staff-directed activities. Community involvement through EBCE projects is offered to those students who are "ready." Pacific Horizons is considered by FWL as a site that offers a full FWL-EBCE program to some but not all of its students.

7.3 Evaluation Design

The evaluation design called for pre- and post-testing of experimental and control groups. The experimental groups consisted of fall (and in some cases spring) new enrollees in the EBCE program. Control groups were formed as matched samples (two control students for each experimental student) drawn from an identified general non-EBCE high school population. As a result of attrition from the originally chosen control-group pool and changes (drops and additions) in the experimental groups, the comparability of the experimental and control groups diminished throughout the year; nevertheless, experimental and control student demography was still sufficiently similar to allow meaningful comparisons between groups. Information was collected from all groups through a battery of tests in the fall (September-October) and another in the late spring (April-May). In addition, at the end of the year parents, cooperating resources, and students were asked for their perceptions of the EBCE program.

As mentioned earlier, instrumentation used to collect this information presented some problems. The outcomes of an experiential learning program are difficult to measure because available instruments (e.g. career-development tests) were not designed for the type of learning intended within such programs but rather, they measure the increase in the knowledge base that can be acquired through classroom instruction. Thus, the two tests used for assessment of career-related outcomes were considered somewhat off the mark for EBCE purposes, but were chosen as being the most suitable among those that were available. Other information was collected from seemingly more appropriate but non-standardized instruments, in the form of questionnaires and rating scales, that had been developed by FWL-EBCE staff through previous evaluations of FWL-EBCE programs.

7.4 Characteristics of Student Groups

Each EBCE program had an enrollment of approximately 60-70 students. Second-year students were not included in the experimental-control comparisons but were asked for their program perceptions at the end of the year. The end-of-year experimental groups* consisted of 28 students at Highland EBCE, 30 students at

---

*First-year students completing both pretest and posttest batteries.

Pacific Horizons and 25 students at Edison EBCE. These experimental groups (and their corresponding EBCE programs) differed on the grade-level of students; the Highland EBCE program enrolled primarily twelfth graders (21 out of 28 experimental students). The Edison program was mainly comprised of students in the eleventh and twelfth grades (5 tenth-grade, 11 eleventh-grade, and 9 twelfth-grade experimental students) while the Pacific Horizons program had almost no twelfth graders and fewer eleventh than tenth graders (2 twelfth grade, 11 eleventh grade, and 17 tenth-grade experimental students). Although all control groups had originally been matched to their corresponding experimental groups on grade level, at the end of the year only the Highland and Pacific Horizons control groups were similar in grade distribution to their corresponding experimental groups. The Edison control group was dissimilar to the experimental group: it contained only 4 eleventh-grade students and 20 out of 24 control students were in the twelfth grade.

In addition to grade level, experimental and control groups were originally matched on gender and ethnic group. All three EBCE programs had about an equal proportion of males and females in the program at the end of the year. Two control groups (at Highland and Pacific Horizons) included a disproportionate percentage of females.

The Highland EBCE experimental and control groups were almost entirely composed of white students. Pacific Horizons experimental and control groups were divided about equally between white and nonwhite (black and Mexican-American) students. The Edison EBCE experimental group after post-testing was primarily white (84%), while the control group was slightly more mixed (67% white). The socioeconomic levels of the students vary considerably from a primarily middle class at Highland to complex urban mixtures at the other two sites.

7.5 Evaluation Findings

7.5.1 Career Development and Awareness

1. Career exploration and career planning activities. A primary goal of the FWL-EBCE program is that students will progress in career development, including both career awareness and planning. In FWL-EBCE, students blend community-based experiential learning with project-related research and study. Therefore, it should be expected that FWL-EBCE students will show gains on measures of career-related activity and involvement.

At the Highland EBCE program the Career Planning Involvement Subtest of the Assessment of Career Development was given pre and post. On this measure the experimental group showed a significant gain score; the control group showed a small, non-significant gain score. At the Pacific Horizons and Edison EBCE programs, the Career Oriented Activities Checklist of New Mexico Career Education Test Series was used as the measure. At Pacific Horizons, the experimental group showed a positive, significant gain from pre to post compared to a positive but non-significant gain for the control group. Results were less clear at Edison EBCE. Here the initial mean rating of participation by the group of EBCE students in career-oriented activities was much higher than the corresponding rating for the control group and this high rating was maintained at the end of the year. The control group did make some gain but its mean rating at the end of the year was still much lower than that of the experimental group. It should be noted that all groups, experimental and control, showed gains on these measures over the year.

2. *Knowledge of career planning.* Although career-planning is considered an integral part of the FWL-EBCE program, the EBCE students did not do better than their controls on the standardized tests of career-planning knowledge. They seemingly had engaged in more career activities (noted above) but this was not converted directly to more of the type of knowledge measured by these career-planning tests. In fact, the group of Highland EBCE students showed a significant drop in mean score from pretest to posttest on the Career-Planning Knowledge Subtest of the Assessment of Career Development while the control group showed a slight decrease in mean score.

On the Career-Planning Knowledge Subtest of the New Mexico Series used as the measure at both the Pacific Horizons and Edison EBCE programs, both the Edison experimental group and Edison control group declined in score from pretest to posttest. On this same test the control group at Pacific Horizons showed significant gains when compared with the EBCE group. The Pacific Horizons control group was the only group to show gains over the year on a measure of career-planning knowledge -- the other control groups and all three EBCE groups showed declines.

3. *Occupational knowledge.* The Occupational Knowledge subtest of the Assessment of Career Development was given pre and post to Highland EBCE and control students. Results showed, as with the career-planning knowledge test, that what learning may be acquired through FWL-EBCE activities is not directly translated into increased occupational knowledge when this is interpreted as knowledge of the characteristics of 200 different jobs (as is the basis for the mentioned test). Neither Highland EBCE nor Highland control students gained appreciably on either the Occupational Characteristics scale or the Occupational Preparation Requirements scale.

4. *Knowledge of what is required to hold a job and to be advanced in an occupation.* Once again experience acquired through the FWL-EBCE program was not reflected in higher posttest knowledge scores on the measures selected. At the two sites tested, Pacific Horizons and Edison EBCE, no significant differences were found between experimental and control groups on mean scores on the Career Development Test (of the New Mexico Series), used as the test of knowledge of what is required to hold a job and to be advanced in an occupation.

5. *Attitude toward careers.* Students at Pacific Horizons did demonstrate a significantly more positive attitude toward careers at the end of the year than did the control students. Posttest scores were significantly better than for controls on both the Attitude Toward Career Knowledge subscale and for the total Attitude Toward Careers scale (of the Student Attitude Survey). This may be related to the strong emphasis at this site placed on improving students' motivation to learn. Little change on these scales from pretest to posttest was observed at the other two sites for either EBCE or control groups.

* * * * *

Overall, when considering the various career development and awareness questions, it appears that EBCE students engaged in more career-related activities, at one site had improved in attitude toward careers, and had fared no better or worse than controls on the various knowledge measures relating to career development. Since career awareness and career planning are clearly incorporated into the FWL-EBCE model, EBCE students should show some progress in this area. The lack of measurable growth in either occupational knowledge or career-planning knowledge leads to two possible considerations as to cause: 1) the FWL-EBCE model is failing to achieve one of its goals; or 2) the instruments available were inappropriate to the kind of learning that is projected to occur in EBCE (career-related maturity, self understanding, relating effectively to adults, clarifying career interests, finding out what several occupations of potential career interest are really like, and learning about people at work).

The second consideration seems supported by evidence that EBCE students in fact declined in score on the Career Planning tests, indicating that the intentions of the test were indeed at cross purposes with EBCE program content and philosophy. In addition, it also seems evident that the experiential FWL-EBCE model is not the most effective way to give students a little knowledge about a large number of careers -- which is in effect the basis of the selected test of occupational knowledge. What FWL-EBCE students felt that they had learned, and how they felt about themselves and their school after attending the EBCE program, may be of greater use in clarifying the real impact of the program on students.

7.5.2 Basic Skills

On standardized basic skills tests (Comprehensive Test of Basic Skills Reading Comprehension, Arithmetic Concepts, and Arithmetic Applications subtests) scores for those students completing both pretest and posttest showed no significant differences between experimental and control groups at either Edison EBCE or at Highland EBCE. The experimental group at Pacific Horizons gained significantly more than the control group in two areas -- reading comprehension and arithmetic concepts -- supporting that program's strong emphasis on basic skills. Although EBCE students performed satisfactorily on basic skills tests, this, of itself, does not relay much information about the quality of the EBCE program. As is the case with the career-development instruments, published tests in basic skills developed for use in conventional programs may not measure the extra dimension of growth in communications skills that should take place in experiential learning programs. For a fuller picture of the outcomes of EBCE programs it is necessary to turn to student attitudes and perceptions collected by instrumentation specifically developed for FWL-EBCE programs.

7.5.3 Students' Perception of Content of School Program

1. Helpfulness of their program. EBCE students, when compared with controls, saw their program as significantly more helpful than their last year's program in three areas -- preparation for work, deciding what to do after high school, and self-understanding -- and they viewed EBCE as equally helpful in the other two areas -- preparation for college and getting along with others. A strongly positive feeling for the EBCE program is evidenced by the fact that the means on the five items in this set of internally-developed scales were lower for the EBCE groups than for the corresponding control groups at the pretest when they were rating their previous program, and were higher than for the corresponding control groups at the time of the posttest. It is of interest to note that although EBCE students did not demonstrate increased knowledge of career planning on standardized instruments, they did feel that the program had been helpful in making plans for the future -- all EBCE groups rated this item far higher than did their corresponding control groups. EBCE students also felt that their program was as useful in preparation for college as did control students consider their program.

2. *Career development/awareness.* On an internally-developed instrument, there were highly significant differences in mean scores between experimental and control groups in their ratings of how much they had learned in their school program in the area of career development and awareness. EBCE students at all three sites felt that they had learned more about careers and jobs, career planning, learning how to do a particular job, and learning job-seeking skills. Although EBCE students did not demonstrate greater gain in career knowledge than non-EBCE students on the standardized career-development tests, they did rate the amount learned in these areas far higher than did the non-EBCE students.

3. *Basic skills.* Using an internally-developed instrument, no significant differences between groups were found in self-rating of improvement in reading, writing, or mathematics skills. The result of these ratings by students of what they felt that they had learned agree with student scores on the CTBS. EBCE students and control students had similar perceptions of their learning in these three basic skills.

4. *Freedom of choice and control of the learning environment.* As part of an internally-developed instrument tapping student opinion of their current program, students completed ten items related to the level of student learning autonomy offered by the program. These items reflected the individualized and experiential base of the instructional program in EBCE. The groups of EBCE students at Highland and Pacific Horizons had significantly higher mean scores for ratings

of their current programs than did their corresponding control groups. The group of EBCE students at Edison felt that their program was significantly better than that previously attended, although they did not differ greatly from the control group which also showed an increase in mean score. Since the topics covered by these rating scales are particularly appropriate for students in an EBCE program, it is to be expected that the groups of EBCE students will show a higher mean rating than the corresponding groups of non-EBCE students in conventional programs. It is of interest that EBCE students do, in fact, recognize the different approach to learning available through EBCE and respond to it so positively.

7.5.4 Students' Perceptions of Personal and Interpersonal Growth

1. *Relationship with adults.* EBCE students felt significantly more positive about their relationship with school staff than did non-EBCE students. At the beginning of the year, at all sites both the experimental and control groups' mean ratings of eight items on staff/student relationships during their previous program attended were below the mean ratings of other school areas. At the end of the year the mean ratings of these items by non-EBCE (control) groups decreased while mean ratings of these items by EBCE (experimental) groups rose sharply. Differences in gain score were significant for all EBCE groups. This positive feeling for staff when combined with the positive opinions of EBCE students on the opportunities for learning autonomy in EBCE give a general picture of a program with a setting that is highly conducive to learning.

EBCE students at Highland and at Edison had significantly higher means than non-EBCE students when rating what they had learned in their current program about working with adults and about accepting the many different ideas and backgrounds of people. The positive feelings toward staff had been supplemented in most EBCE students by increased capacity to work with adults and to get along with a greater variety of people.

2. *Relationship with peers.* EBCE students rated their relationships with peers in EBCE as more positive than in the previous program but continued to show less positive attitudes toward peers than did control students. EBCE students did not rate relationships with peers as high as they did relationships with staff and other adults. At the beginning of the year, the mean rating of relationships with peers by each EBCE group was lower than the mean rating by the corresponding

control group. At the end of the year, two EBCE groups (Highland and Edison), were more positive about their relationships with peers than they were at the beginning; but they continued to be more negative than their respective control groups. At Pacific Horizons, the EBCE group did show a significant gain score and did, in fact, surpass the mean score of the control group at the end of the year. However, it appears that EBCE students on the whole throught less well of their peers on entrance to the program and continued to be less social in the program. A likely explanation consistent with findings of previous evaluations at other FWL-EBCE sites is that getting away from or changing peer pressures is a common reason why students choose to enter EBCE.*

On the Student Attitude Survey, two sets of scales (Attitude Toward Self and Attitude Toward Others) showed no significant differences between the EBCE groups and corresponding control groups and no significant changes in groups' mean scores from pre to post.

7.5.5 Students' Attitude Toward School and Learning

1. *Long-term attitude.* EBCE students at two of the three sites had a significantly more positive long-term attitude toward school at the end of the year. All groups of EBCE students improved their mean scores from pretest to posttest on a set of items designed by FWL-EBCE to measure long-term attitude toward school. Initially all EBCE groups were significantly more negative on these items than control groups. At the end of the school year the EBCE groups at two sites (Highland and Pacific Horizons) had made significant gains and achieved mean scores equal to those of their respective control groups. At Edison, the experimental (EBCE) group gained less, and continued to be significantly lower in mean score, than the control group.

2. *Attitude toward their current program.* EBCE students liked school much better during the current year than in previous years while control students liked school less than in previous years. When students were asked to rate how they liked school "last year" and "before last year" (during pretest sessions) and "this year" (during posttest sessions) EBCE groups made highly significant positive gains while control groups showed slight negative change. All three

---

*See FWL-EBCE Final Evaluation Report FY74 for a discussion of reasons given by students for applying to Far West School, the original FWL-EBCE program.

EBCE groups moved from a far more negative attitude than corresponding control groups. In addition, all EBCE groups showed significant gains from pretest to posttest on the internally developed School Opinion Scales total score (combining attitudes toward learning autonomy, school, peers, and staff).

* * * * *

In general, in comparison with control students, EBCE students felt better about school; they liked their program better and they responded more positively to the student-staff relationships and learning opportunities available.

7.5.6 Participants' Perceptions and Outcomes

1. *Judgment of the experience.* EBCE students (and parents of EBCE students) agreed that if they had it to do over again they would want (would want their son/daughter) to attend EBCE. Means for all respondent groups (EBCE students, and parents of EBCE students at two sites) were above 4.0 on a five-point scale (1=strongly disagree, 5=strongly agree) showing that most students and parents approved of attendance in the EBCE program.

2. *Parents' judgments.* Parents of EBCE students felt that during the year their son or daughter had changed positively and that he or she talked more to them about school experiences. Parents' ratings of seven ways that students had changed (using a five-point scale; 1=much worse, 5=much better) were very positive with group means at each site above 3.75 on all seven items. Change for the better in responsibility and interest in school were rated above 4.0 by all three parent groups. Mean scores for all groups also indicated that students talked more to parents about their school experiences than they did in the past.

Parents felt that the EBCE program was better than that attended previously by the student and that it had proved helpful to the student. Parent-group means on an item rating the EBCE program as better or worse than school programs previously attended by the student were very high, ranging from 3.97 to 4.58 on a five-point scale (1=much worse, 5=much better). Most parents also agreed with statements that the school had helped the student in specific areas such as preparation for work and planning for after high school. Overall, most parents of EBCE students were highly supportive of the EBCE program.

4. *Resources' judgments.* Resources felt that the program provided meaningful learning experiences for students. Resources' opinions about learning experiences that were available at the sites largely paralleled students' impressions. High ratings by resources at all three sites were given to opportunities for learning about careers and jobs, for improving skills in working with adults, and for planning for a career or careers.

Resources involved at the three sites valued their own participation in EBCE. They planned to continue in the program and would recommend to others that they participate in the program. When considering costs, benefits, and other factors they felt that participation in EBCE was highly desirable. (Means on these items ranged from 3.29 to 3.73 on a four-point scale where 4 = highly desirable.)

5. *Students' progress toward graduation.* EBCE students earned a satisfactory amount of credit, by district standards, through their EBCE activities. Two EBCE sites reported that the mean of credits earned by students was slightly below district norm; but all sites stated that the amount of credit earned was satisfactory for the students involved. Two factors leading to somewhat lower credits earned were (1) presence in the program of seniors who needed few credits to graduate, and (2) the presence of students with relatively low motivation and/or low previous performance level who continued to progress at a relatively slower rate than normal. The amount of credit earned by EBCE students ranged from about 70% of normal at Pacific Horizons (a continuation school) to about normal at Highland EBCE.

6. *Students' rating of program success.* EBCE students at two sites differed in their judgment of what program elements were most successful for them. When students at Highland EBCE and Pacific Horizons were asked to rate the effectiveness of 19 FWL-EBCE program elements using their own experience, means for all of the activities were above the midpoint of the scale, showing that students had overall favorable impressions of important components of the EBCE program.

However, when the ratings by the two groups of students were ranked, program-related differences were found in students' perceptions of the relative success of different elements. Only four items were agreed upon as highly successful (placed within the top eight) by students at both sites: learning to make decisions, learning about possible careers, learning about yourself, and carrying out projects. The Highland EBCE students rated the community-based portions of the program has having been very successful while Pacific Horizons students gave high ratings to a group of items involving staff/student activities: individual and group meetings with Learning Coordinators, planning for a career, and evaluating their work. These items were among the least popular with Highland students. It appears that local EBCE adaptations are reflected in students' opinions about program content.

7.6 Conclusions

Program outcomes indicate that the FWL model EBCE program is adaptable to a variety of settings and that the model may be successfully implemented in different configurations. The three programs enrolled students from varying geographic and socio-economic backgrounds and all programs enabled students to earn a satisfactory amount of high school credit through community-based learning activities. The EBCE programs were strongly supported by parents as well as by new and continuing EBCE students. In addition, community resources reported favorably on their student contacts and valued their own participation in the program.

Student outcomes indicated that students progressed normally in basic skills, showed an increased level of career development activities, showed greatly improved attitudes toward school, and improved their relationships with adults. EBCE students did not demonstrate increased career knowledge on standardized knowledge tests, and compared to controls continued to show lower (although improved) ratings of attitude toward their peers.

Difficulties were encountered in obtaining suitable instrumentation for measuring the outcomes of an experientially-based program. Two career development instruments that were used were chosen as being the most nearly appropriate among those available. Analysis of pretest and posttest data showed significant gains for EBCE students in areas measuring activities rather than in measurement of knowledge obtained. Results of internally-developed instrumentation previously used in evaluating EBCE programs showed significantly more positive perceptions of growth by EBCE students than their corresponding controls.

SELECTED BIBLIOGRAPHY

Anderson, S., & Drucker, C. B. External evaluators' final report on the EBCE programs. Vol. III: Experience-Based Career Education in Oakland, California: An anthropological perspective. Berkeley, CA: Educational Testing Service, 1977.

Banker, N. Experience-Based Career Education, staff development handbook. San Francisco: Far West Laboratory for Educational Research and Development, 1976.

Christensen, P. R., & Johnson, J. N. The learning coordinator: A study of the role. San Francisco: Far West Laboratory for Educational Research and Development, 1977.

Christensen, P., Spotts, R., & Evenson, J. Experience-Based Career Education final evaluation report FY 1975. San Francisco: Far West Laboratory for Educational Research and Development, 1975.

Christensen, P., Spotts, R., Evenson, J., & Watkins, R. Evaluation and research on Experience-Based Career Education at Far West School. Paper presented at the Annual Meeting of the American Educational Research Association, Washington, D.C., April 1975.

Corder, R. External evaluators' final report on the EBCE programs. Vol. I: Summary evaluation of four Experience-Based Career Education schools. Berkeley, CA: Educational Testing Service, 1977.

Corder, R., & Watkins, R. External evaluators' final report on the EBCE programs. Vol. VII: Search for, and development of, instruments measuring student outcomes of Experience-Based Career Education programs. Berkeley, CA: Educational Testing Service, 1977.

Creech, F. R. External evaluators' final report on the EBCE programs. Vol. VIII: Behavioral observation at Far West School: A description of Experience-Based Career Education. Berkeley, CA: Educational Testing Service, 1977.

Evenson, J., & Banker, N. Utility of community-based learning resources. Paper presented at the Annual Meeting of the American Research Association, New York City, April 1977.

Evenson, J., & Spotts, R. Experience-Based Career Education,final evaluation report FY 1976. San Francisco: Far West Laboratory, 1976.

Far West Laboratory for Educational Research and Development, Experience-Based Career Education Project. Employer-Based Career Education evaluation report FY 1973. San Francisco: FWL, 1973. (a)

Far West Laboratory for Educational Research and Development, Experience-Based Career Education Project. Prospectus: EBCE replication. San Francisco: FWL, 1973. (b)

Far West Laboratory for Educational Research and Development, Experience-Based Career Education Project. Prospectus: Employer-Based Career Education program operation plan fiscal year 1974. San Francisco: FWL, 1973. (c)

Far West Laboratory for Educational Research and Development, Experience-Based Career Education Project. Implementation prospectus: Experience-Based Career Education fiscal years 1976-78. San Francisco: FWL, 1975.

Far West Laboratory for Educational Research and Development, Experience-Based Career Education Project. Operational handbook. Vol. I: Management. San Francisco: FWL, 1976. (a)

Far West Laboratory for Educational Research and Development, Experience-Based Career Education Project. Operational handbook. Vol. II: Resources. San Francisco: FWL, 1976. (b)

Far West Laboratory for Educational Research and Development, Experience-Based Career Education Project. Operational handbook. Vol. III: Guidance and instruction. San Francisco: FWL; 1976. (c)

Far West Laboratory for Educational Research and Development, Experience-Based Career Education Project. Operational handbook. Vol. IV: Project planning packages. San Francisco: FWL, 1976. (d)

Hood, P. D., & Banathy, B. H. An employer-based career educational model, a description and an operational plan. San Francisco: Far West Laboratory for Educational Research and Development, 1972.

Jenks, C. L. A study of the feasibility of field adoption and implementation. San Francisco: Experience-Based Career Education Project, Far West Laboratory for Educational Research and Development, 1975.

Jenks, C. L. Preliminary information needs of educators for adoption decisions. San Francisco: Experience-Based Career Education Project, Far West Laboratory for Educational Research and Development, 1976. (a)

Jenks, C. L. Theoretical basis of experience-based career education. San Francisco: Experience-Based Career Education Project, Far West Laboratory for Educational Research and Development, 1976. (b)

Jenks, C. L. Guide to adoption and implementation decisions. San Francisco: Experience-Based Career Education Project, Far West Laboratory for Educational Research and Development, 1977.

Johnson, J. N. The feasibility of employer-based career education: A summary of studies undertaken by the Far West Laboratory in cooperation with the Northwest Regional Laboratory. San Francisco: Far West Laboratory for Educational Research and Development, 1973.

Johnson, J. N. EBCE: The Far West model, a program overview. (2nd ed.) San Francisco: Experience-Based Career Education Project, Far West Laboratory for Educational Research and Development, 1975.

National Institute of Education. *A comparison of four experience-based career education programs*. Washington, D.C.: NIE, 1976.

Spotts, R., Watkins, R., Evenson, J., & Bavry, J. *Experience-Based Career Education, final evaluation report FY 1974*. Vol. I. San Francisco: Far West Laboratory for Educational Research and Development, 1974. (a)

Spotts, R., Watkins, R., Evenson, J., & Bavry, J. *Experience-Based Career Education, final evaluation report FY 1974*. Vol. II. San Francisco: Far West Laboratory for Educational Research and Development, 1974. (b)

Trask, A. E. *External evaluators' final report on EBCE programs.* Vol. IX: *Experience-Based Career Education: An interorganizational analysis.* Berkeley, CA: Educational Testing Service, 1977.

Watkins, R., & Corder, R. *External evaluators' final report on the EBCE programs*. Vol. VI: *Student outcomes and participant opinion in Experience-Based Career Education schools*. Berkeley, CA: Educational Testing Service, 1977.

Watkins, R. W., & Jenks, C. L. *Values and information: An approach to evaluation planning*. San Francisco: Experience-Based Career Education Project, Far West Laboratory for Educational Research and Development, 1976.

APPENDIX A

SECTION 1: Project-developed Instruments

SECTION 2: Description of Other Instruments

SECTION 3: Implementation Forms Used in Evaluation

SECTION 1: Project-developed Instruments

INSTRUMENT DESCRIPTION

Name of Instrument: Student Background Summary

Developer: Far West Laboratory EBCE Program.

Source: Students -- EBCE and other high school students.

Purpose: To collect demographic information, plans for after high school, baseline attitudes toward school and toward previous school program, and reasons for entering the program.

Instrument Type: Questionnaire, multiple-choice and rating scales.

Administration: On entry to the program. Untimed -- takes approximately 15 minutes.

History: Items either originated with the FWL-EBCE program or were derived from those appearing in a similar instrument developed by the four EBCE programs in 1973. The current instrument has been in use since the fall of 1975. End-of-year information related to several of the questions is collected on another instrument -- the SPPS.

Scoring: All items are objective in format and can be hand-scored, or punched and machine-scored. The only coding required is to convert the age of the student to months of age in September of the current school year.

EXPERIENCE-BASED CAREER EDUCATION	STUDENT BACKGROUND SUMMARY

NAME

SCHOOL

DATE

DATE OF BIRTH month____________ day______ year ______

To the student:

This questionnaire, the Student Background Summary, asks for information about what you are like, your future plans, and how you feel about school. This will help your school staff to improve your program and make it work better. It also will help us at Far West Laboratory to put similar programs into other high schools. Questionnaires will be treated confidentially; they will be kept at Far West Laboratory in San Francisco and no information that identifies any individual student will be released to the school district.

Please be sure that you have filled out the items at the top of the page and then turn to the next page and start on the questionnaire. You will see that all of the questions on the following pages ask you to circle a number to show your answer. Usually there will be only one number to circle for each question but sometimes you will be asked to circle one number in each column or one number in each line.

Thank you for your time.

(SBS-I 9/3/75)

1. Current school grade level:

	(Circle one)
9th grade	1
10th grade	2
11th grade	3
12th grade	4

2. Sex:

	(Circle one)
Male	1
Female	2

3. How do you describe yourself?

	(Circle one)
American Indian	1
Black or Afro-American	2
Filipino	3
Mexican-American or Chicano	4
Puerto Rican	5
Other Latin-American origin	6
Oriental or Asian-American	7
White or Caucasian	8
Other	9

4. What is the highest level of formal education completed by your father? If you are not sure please give your best guess.

(Circle one)

Elementary school	1
Some high school training	2
High school diploma	3
Some college training	4
College degree	5
Some graduate school training	6
Graduate school degree	7

5. What is the highest level of formal education completed by your mother? If you are not sure please give your best guess.

(Circle one)

Elementary school	1
Some high school training	2
High school diploma	3
Some college training	4
College degree	5
Some graduate school training	6
Graduate school degree	7

6. Father's and Mother's Work

Under FATHER, circle the one number that best describes the work done by your father (or male guardian). Under MOTHER, circle the one number that best describes the work done by your mother (or female guardian). The exact job may not be listed but circle the one that comes closest. If either of your parents is out of work, disabled, retired, or deceased, mark the kind of work that he or she used to do.

(Circle one number in each column)

	Father	Mother
CLERICAL *such as bank teller, bookkeeper, secretary, typist, mail carrier, ticket agent*	01	01
CRAFTSMAN *such as baker, automobile mechanic, machinist, painter, plumber, telephone installer, carpenter*	02	02
FARMER, FARM MANAGER	03	03
HOMEMAKER OR HOUSEWIFE	04	04
LABORER *such as construction worker, car washer, sanitary worker, farm laborer*	05	05
MANAGER, ADMINISTRATOR *such as sales manager, office manager, school administrator, buyer, restaurant manager, government official*	06	06
MILITARY *such as career officer, enlisted man or woman in the armed forces*	07	07
OPERATIVE *such as meat cutter, assembler, machine operator, welder, taxicab, bus, or truck driver, gas station attendant*	08	08
PROFESSIONAL *such as accountant, artist, clergyman, dentist, physician, registered nurse, engineer, lawyer, librarian, teacher, writer, scientist, social worker, actor, actress*	09	09
PROPRIETOR OR OWNER *such as owner of a small business, contractor, restaurant owner*	10	10
PROTECTIVE SERVICE *such as detective, policeman or guard, sheriff, fireman*	11	11
SALES *such as salesman, sales clerk, advertising or insurance agent, real estate broker*	12	12
SERVICE *such as barber, beautician, practical nurse, private household worker, janitor, waiter*	13	13
TECHNICAL *such as draftsman, medical or dental technician, computer programmer*	14	14

7. What are your plans for one year and five years after high school?

(Circle one number in each column)

	One year after high school	Five years after high school
Going to school, but not working	1	1
Mostly going to school but working part time	2	2
Mostly working but going to school part time	3	3
Working, not going to school	4	4
Other plans instead of going to school or working (please specify)	5	5

8. In what kind of educational program do you plan to be enrolled one year after high school?

(Circle one)

None	1
Apprenticeship or on-the-job training	2
Vocational, technical, trade or business school	3
Study of technical or vocational courses at a junior college or community college	4
Academic courses at a junior or community college	5
Four year college or university	6
Other educational program (please specify)	7

9. What are your long range plans? In five years in which of the following areas are you most likely to be working or preparing to work? Please give your best guess.

(Circle one)

CLERICAL *such as bank teller, bookkeeper, secretary, typist, mail carrier, ticket agent*	01
CRAFTSMAN *such as baker, automobile mechanic, machinist, painter, plumber, telephone installer, carpenter*	02
FARMER, FARM MANAGER	03
HOMEMAKER OR HOUSEWIFE	04
LABORER *such as construction worker, car washer, sanitary worker, farm laborer*	05
MANAGER, ADMINISTRATOR *such as sales manager, office manager, school administrator, buyer, restaurant manager, government official*	06
MILITARY *such as career officer, enlisted man or woman in the armed forces*	07
OPERATIVE *such as meat cutter, assembler, machine operator, welder, taxicab, bus, or truck driver, gas station attendant*	08
PROFESSIONAL *such as accountant, artist, clergyman, dentist, physician, registered nurse, engineer, lawyer, librarian, teacher, writer, scientist, social worker, actor, actress*	09
PROPRIETOR OR OWNER *such as owner of a small business, contractor, restaurant owner*	10
PROTECTIVE SERVICE *such as detective, policeman or guard, sheriff, fireman*	11
SALES *such as salesman, sales clerk, advertising or insurance agent, real estate broker*	12
SERVICE *such as barber, beautician, practical nurse, private household worker, janitor, waiter*	13
TECHNICAL *such as draftsman, medical or dental technician, computer programmer*	14

10. What is your past job history?

(Circle one)

No paid work experience	1
Some paid work experience, but less than 3 months full time or six months part time	2
At least 3 months full time or 6 months part time	3
At least 6 months full time or 12 months part time	4
At least 1 year full time or 2 years part time	5

11. The statements below describe various ways in which your school program last year may or may not have helped you. Show how you agree or disagree with the following statements:

(Circle one number on each line)

	Strongly Disagree	Disagree	Agree	Strongly Agree
The school helped to prepare me for work	1	2	3	4
The school helped to prepare me for college	1	2	3	4
The school helped me to decide what I want to do after high school	1	2	3	4
The school helped me to better understand myself	1	2	3	4
The school helped me to get along better with others	1	2	3	4

12. How did you like school last year?

(Circle one)

I disliked almost everything about it................. 1
I disliked it more than I liked it..................... 2
I liked and disliked it about equally.................. 3
I liked it more than I disliked it..................... 4
I liked almost everything about it..................... 5

13. How did you like school in the years before last year?

(Circle one)

I disliked almost everything about it.................. 1
I disliked it more than I liked it..................... 2
I liked and disliked it about equally.................. 3
I liked it more than I disliked it..................... 4
I liked almost everything about it..................... 5

14. Keeping on top of my school work is

(Circle one)

Never important to me.................................. 1
Not usually important to me............................ 2
Sometimes important and sometimes not.................. 3
Usually important to me................................ 4
Always important to me................................. 5

15. Getting good grades is

(Circle one)

Never important to me.................................. 1
Not usually important to me............................ 2
Sometimes important and sometimes not.................. 3
Usually important to me................................ 4
Always important to me................................. 5

16. Why are you attending the EBCE program this year? Below is a list of some possible reasons for attending; please indicate whether each was an important reason for your decision to attend EBCE, was somewhat important or was not important.

(Circle one number on each line)

	Not important	Somewhat important	Important
To develop plans for after high school	1	2	3
To learn things that I want to learn	1	2	3
To make new friends	1	2	3
To find out more about my own values, interests, needs and goals	1	2	3
To plan my own learning program	1	2	3
To get into a program different from regular school	1	2	3
To work with adults in the community	1	2	3
To have more individual attention	1	2	3
To find out more about careers	1	2	3
To have learning activities outside of the classroom	1	2	3
To get job training	1	2	3
To have more responsibility and independence	1	2	3
To get away from problems at my previous school	1	2	3
To improve my skills in meeting and dealing with adults	1	2	3
To get help in finding a job	1	2	3
Other reason (please specify)	1	2	3

____

____

INSTRUMENT DESCRIPTION

Name of Instrument: Student Plans and Perceptions Survey (1977 version)

Developer: Far West Laboratory EBCE Program.

Source: Students -- EBCE and other high school students.

Purpose: To collect information from students on their future plans, attitude toward school and attitude toward their current school program.

Instrument Type: Questionnaire; multiple-choice, rating scales, and one open-ended question.

Administration: End of year only. Untimed -- takes approximately 15 minutes.

History: The current version consists of items drawn from those used on a similar instrument in previous years. Questions 1, 2, 3, 4, 5, and 7 are the same, or very similar, to items on the Student Background Summary and are to be used for Pre/Post comparison.

Scoring: Most of the items are objective in format and can be hand-scored or key-punched and machine-scored. Item 10 requires coding. The coding categories were developed from an analysis of responses to this item from the 1973-1974 student body and control students. The coding categories are attached.

STUDENT PLANS AND PERCEPTIONS SURVEY (1977)

CODING CATEGORIES FOR QUESTION 10:

"Name three ways that you have changed as a result of your school experiences this year"

DIRECTIONS: Code the three responses independently. (More than one response may be in the same category.)

CONTENT AREA	CATEGORY	CODE
1. Self Growth	Know more about self -- self-understanding	11
Broad personality characteristics	Socially more sure of self, less shy, expresses self better, outgoing	12
	Responsible, independent, work for and by self	13
	Able to solve problems, make decisions, cope, plan	14
	General maturation, more adult (if cannot fit into above categories)	15
	Other self growth	16
2. Career/Work	Increased awareness of and improved attitudes toward world of work (general)	21
	Knowledge about career/work (general)	22
	Knowledge about specific careers/ jobs/behaviors	23
3. Learning/ Academic Progress	Attitude changed; more interest in school and learning; better study habits; less cutting	31
	Learned more (specific and general); prepared for college	32
4. Interpersonal Action	Met more people; do more with people	41
	Get along better; relate better; express self more with people	42
5. Future Planning	Developed goal (unspecified); thought about plans	51
	Developed career plans	52
	Decided to further education, go to college	53
6.	No change	60
7.	Negative change	70
8.	Other	80

STUDENT PLANS AND PERCEPTIONS SURVEY

EXPERIENCE-BASED CAREER EDUCATION

FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT
1855 FOLSOM STREET • SAN FRANCISCO, CALIFORNIA 94103

Name: ____________________

Date: ____________________

School: ____________________

This questionnaire asks for your opinions about going to school and about your current school program. It also asks about your future plans. There are no right or wrong answers -- your own thinking about your school experiences and after-school plans will help us to improve future education programs. Responses to this questionnaire will be treated as strictly confidential. Thank you for your time.

1. What are your plans for one year after high school?

(Circle one number)

Going to school, but not working	1
Mostly going to school, but working part time	2
Mostly working, but going to school part time	3
Working, not going to school	4
Other activities instead of going to school or working (please specify)	5

____

____

2. What are your plans for five years after high school?

(Circle one number)

Going to school, but not working	1
Mostly going to school, but working part time	2
Mostly working, but going to school part time	3
Working, not going to school	4
Other plans instead of going to school or working (please specify)	5

____

____

3. In what kind of educational program do you plan to be enrolled one year after high school?

(Circle one number)

None	1
Apprenticeship or on-the-job training	2
Vocational, technical, trade or business school	3
Technical or vocational courses at a junior college or community college	4
Academic courses at a junior or community college	5
Four year college or university	6
Other educational program (please specify)	7

____

____

4. What is your past job history?

(Circle one number)

No paid work experience....................................1

Some paid work experience, but less than 3 months full time or six months part time........................2

At least 3 months full time or 6 months part time..3

At least 6 months full time or 12 months part time..4

At least 1 year full time or 2 years part time...........5

5. The statements below describe various ways in which your school program this year may or may not have helped you. Show how you agree or disagree with the following statements:

(Circle one number on each line)

	Strongly Disagree	Disagree	Agree	Strongly Agree
The school helped to prepare me for work	1	2	3	4
The school helped to prepare me for college	1	2	3	4
The school helped me to decide what I want to do after high school	1	2	3	4
The school helped me to better understand myself	1	2	3	4
The school helped me to get along better with others	1	2	3	4

6. How much do you feel that you learned in your school program this year?

(Circle one number on each line)

How much did you learn in the area of:	Nothing	A Little	Some	A Lot
a. Learning about careers and jobs	1	2	3	4
b. Planning for a career or careers	1	2	3	4
c. Learning job-seeking skills	1	2	3	4
d. Learning how to do a particular job	1	2	3	4
e. Improving reading skills	1	2	3	4
f. Improving writing skills	1	2	3	4
g. Improving math skills	1	2	3	4
h. Improving listening and speaking skills	1	2	3	4
i. Thinking through and solving problems	1	2	3	4
j. Improving skills in working with other students	1	2	3	4
k. Improving skills in working with adults	1	2	3	4
l. Accepting many different ideas and backgrounds of people	1	2	3	4

7. How did you like school this year? (Circle one number)

I disliked almost everything about it. .1
I disliked it more than I liked it 2
I liked and disliked it about equally. .3
I liked it more than I disliked it 4
I liked almost everything about it 5

8. Name three ways that you have changed as a result of your school experiences this year.

INSTRUMENT DESCRIPTION

Name of Instrument: School Opinion Scales

Developer: Far West Laboratory EBCE Program

Source: Students -- EBCE and other high school students.

Purpose: To collect information on student attitudes toward learning and toward their school program. The instrument contains four subscales measuring attitude toward student learning autonomy, attitude toward peers, attitude toward staff, and general attitude toward school.

Instrument Type: Rating scales. Thirty statements are rated on a five-point scale from "strongly disagree" to "strongly agree."

Administration: On entry to the program and at end of year. Untimed -- takes approximately 15 minutes to complete. The instructions call for rating the program just attended; i.e., on entry to the program rate the program previously attended and at the end of the year rate the EBCE program.

History: The School Opinion Scales (SOS) were developed to provide an instrument with items suitable for use in the EBCE program. The original source of items was the School Sentiment Index (SSI).* A few items were adapted from other sources. The instrument was specifically designed to be suitable for alternative programs such as EBCE that do not have classroom instruction or use teachers as primary instructional agents.

The School Sentiment Index is made up of seven subscales that form a pool of 82 items. In the original selection process, two members of the evaluation staff chose items from SSI that appeared to have possibilities for measurement of attitudes of EBCE students. These items were adapted where necessary to the unique EBCE setting; "teacher" was changed to "staff" and "classes" to "school," for example. The first form of the SOS consisted of 42 items adapted from the School Sentiment Index and five other items.

The initial group of 47 items was pilot-tested on 97 EBCE students. Some unsatisfactory items were eliminated following item analysis. The remaining 37 items were factor-analyzed. Factor analysis led to the elimination of some items and the stabilization of 30 items in four factors.

---

*School Sentiment Index (Attitude Toward School Grades K-12, Instructional Objectives Exchange, 1972).

Table 1 shows the relation of the items in the School Opinion Scales to the original scales of the School Sentiment Index. Suitable items were found in each subscale of the SSI with the exception of the "learning" subscale. During the development of the instrument, it was found that two of the SOS subscales differentiated early and appeared relatively independent of the other items. One was "peers" where five of the original eight items in the School Sentiment Index were transferred to the "peers" subscale of the SOS. The "general" scale, measuring a non-specific and long-term attitude toward school, also differentiated early -- three items were transferred from a similar scale on the School Sentiment Index.

The first and strongest factor in the School Opinion Scales consists of ten items and appears to be related to the type of learning which is characteristic in EBCE. The factor has been variously labelled "student autonomy" or "student decision-making." It can be seen from Table 1 that most of the items in this scale originally came from the teacher subscales of the SSI, especially those scales having to do with mode of instruction and authority and control. The scale appears to have been switched from teacher-controlled learning to student-centered learning or learning autonomy.

The final subscale of the four appears to measure the staff-student relationship on an affective rather than on a cognitive basis. Appropriately, these items are basically drawn from the two SSI scales on teachers' interpersonal relationship with students and "social structure and climate." This was the least independent of the four subscales; four of the items on this scale also had loadings above .30 on the learning autonomy scale described previously.

Exhibit A groups the items by factor, shows the loading on each factor and, in parentheses, the secondary loading over .30. Exhibit A also shows the items in which the polarity is to be reversed for scoring.

Scoring: All items are scored in a "school-positive" direction -- the polarity is reversed on twelve "negative" items. The SOS produces five scores for each respondent -- one for each subscale and a total score -- each representing the degree of agreement with the school-positive pole on statements related to the four identified factors: attitudes toward learning autonomy, school, peers, and staff. Each subscore consists of the mean rating for items in that subscale. The total score consists of the mean rating over all items. Missing values are arbitrarily assigned a value of "3" (undecided).

TABLE 1: COMPOSITION OF SCHOOL OPINION SCALES

Original SSI Subscales	Original SSI N	Number Chosen for SOS	Final Form of SOS	Distribution Subscales of SOS			
				Learning Autonomy	General	Peers	Staff
Teacher:							
Mode of instruction	15	7	3	3			
Authority and control	10	6	3	3			
Interpersonal with students	12	6	4	1			3
Learning	11	0	0				
Social Structure, climate	15	9	5	1	1	1	2
Peer	8	6	5			5	
General	11	8	5	1	3		1
TOTAL	82	42	25				
Other Sources		5	5	1	2		2
		47	30	10	6	6	8

EXHIBIT A

SCHOOL OPINION SCALE FACTORS

FACTOR A: STUDENT LEARNING AUTONOMY

Item No	Reverse Polarity	Item	Primary Loading	Secondary Loading
17		At this school I have the opportunity to choose assignments that are interesting to me	.65	
1		The staff at this school likes working with young people	.63	(C.32)
23	R	At this school students do not have much choice in what they study	-.62	
5		School is important to me because I find many of the things I learn are useful outside of school	.59	(B-.32)
27		The staff at this school will accept suggestions from students	.57	
10	R	At this school I am not allowed to be as creative as I want to be	-.48	
7		At school I am encouraged to think for myself	.45	
14		Some of the ideas I've gotten in school have been so interesting I have followed up on my own	.42	
16	R	This school is run like a prison	-.41	
20		The staff at this school likes what it is doing	.39	(D.31)

FACTOR B: SCHOOL-RELATED ATTITUDES

3	R	School has always been boring -- I can hardly wait until I'm out	.72	
8	R	If I had a choice, I wouldn't go to school at all	.63	
19	R	School is just a place to keep kids off the street	.62	
29	R	It is difficult for me to see my education as a stepping stone to future success	.60	
26		School is really worthwhile	-.47	
13	R	I often feel rushed and nervous at school	.44	

Item No	Reverse Polarity	Item	Primary Loading	Secondary Loading
FACTOR C: PEER-RELATED ATTITUDES				
21		I really like most of the kids at this school	.71	
25	R	Students here are not as friendly as in other schools	-.69	
11		It isn't difficult for a new student to find friends here	.63	
9		There are enough different groups here at school for any type of student to find friends	.62	
30		I enjoy the social life here	.53	
4		This school is a good place for making friends	.52	(D.41)
FACTOR D: STAFF-RELATED ATTITUDES				
15		At this school people really care about me	.71	
18	R	The staff at this school is often impatient	-.59	(A-.42)
2		Students have a voice in determining how this school is run	.49	(A.41)
6	R	At this school there are very few people I can go to when I have a personal problem	-.48	
24		I like school because I learn a lot of new things there	.45	(A.32)
22		The staff at this school seems personally concerned about me	.41	(A.33)
12	R	The staff at this school is usually friendliest with the bright students	-.38	(B.33)
28		Each morning I look forward to coming to school	.37	(B-.33)

SCHOOL OPINION SCALES

EXPERIENCE-BASED CAREER EDUCATION

FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT
1855 FOLSOM STREET • SAN FRANCISCO CALIFORNIA 94103

Name: ______________________

Date: ______________________

School: ______________________

This survey asks for your opinions about the school/EBCE program that you have been attending during the past school year and for some of your attitudes toward education.

If you are completing this questionnaire at the beginning of the school year, answer the questions while thinking about your experiences at school last year.

If you are completing this questionnaire in the middle of the school year, answer the questions while thinking about your experiences during the past semester.

If you are completing this questionnaire at the end of the school year, answer the questions while thinking about your experiences this year.

The survey consists of a number of statements. For each statement show the extent to which you agree or disagree by circling one number on the scale:

1........................if you strongly disagree
2........................if you disagree
3........................if you are undecided
4........................if you agree
5........................if you strongly agree

There are no right or wrong answers so respond to each item as honestly as you can. All information will be treated confidentially; your responses will not be associated with your name. Thank you for your time.

(Circle one number on each line)

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1. The staff at this school likes working with young people	1	2	3	4	5
2. Students have a voice in determining how this school is run	1	2	3	4	5
3. School has always been boring -- I can hardly wait until I'm out	1	2	3	4	5
4. This school is a good place for making friends	1	2	3	4	5
5. School is important to me because I find many of the things I learn are useful outside of school	1	2	3	4	5
6. At this school there are very few people I can go to when I have a personal problem	1	2	3	4	5
7. At school I am encouraged to think for myself	1	2	3	4	5
8. If I had a choice, I wouldn't go to school at all	1	2	3	4	5
9. There are enough different groups here at school for any type of student to find friends	1	2	3	4	5
10. At this school I am not allowed to be as creative as I want to be	1	2	3	4	5
11. It isn't difficult for a new student to find friends here	1	2	3	4	5
12. The staff at this school is usually friendliest with the bright students	1	2	3	4	5

(Circle one number on each line)

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
13. I often feel rushed and nervous at school	1	2	3	4	5
14. Some of the ideas I've gotten in school have been so interesting I have followed up on my own	1	2	3	4	5
15. At this school, people really care about me	1	2	3	4	5
16. This school is run like a prison	1	2	3	4	5
17. At this school I have the opportunity to choose assignments which are interesting to me	1	2	3	4	5
18. The staff at this school is often impatient	1	2	3	4	5
19. School is just a place to keep kids off the street	1	2	3	4	5
20. The staff at this school likes what it is doing	1	2	3	4	5
21. I really like most of the kids at this school	1	2	3	4	5
22. The staff at this school seems personally concerned about me	1	2	3	4	5
23. At this school students do not have much choice in what they study	1	2	3	4	5
24. I like school because I learn a lot of new things here	1	2	3	4	5
25. Students here are not as friendly as in other schools	1	2	3	4	5

(Circle one number on each line)

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
26.	School is really worthwhile	1	2	3	4	5
27.	The staff at this school will accept suggestions from the students	1	2	3	4	5
28.	Each morning I look forward to coming to school	1	2	3	4	5
29.	It is difficult for me to see my education as a stepping stone to future success	1	2	3	4	5
30.	I enjoy the social life here	1	2	3	4	5

INSTRUMENT DESCRIPTION

Name of Instrument: EBCE Perceptions Survey (1977 version)

Developer: Far West Laboratory EBCE Program

Source: EBCE students only.

Purpose: To collect specific impressions of the EBCE program from EBCE students. To assess student opinion about the success of various program activities.

Instrument Type: Questionnaire; multiple-choice, rating scales, and three open-ended questions.

Administration: End of year only. Untimed -- takes approximately 15 minutes.

History: The items have been drawn, with minor revisions, from those used in previous years. Most items were developed by the FWL-EBCE program. A few items were derived from those appearing on the Student Opinion Survey, an instrument that was developed jointly by the four EBCE developer labs in 1973.

Scoring: Most items can be machine processed. The three open-ended items will require coding, descriptive summarization or verbatim transmission, depending on the user's needs. A sample showing a format for presenting verbatim responses is attached.

EBCE PERCEPTIONS SURVEY

EXPERIENCE-BASED CAREER EDUCATION
FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

Name: ______________________________

Date: ______________________________

School: ______________________________

This survey is meant to give you an opportunity to express your opinions about the Experience-Based Career Education (EBCE) Program. The answers from all the students will be used to help determine how well the program is doing now and to improve it in the future. There are no right or wrong answers; your thoughts and feelings are the important things in this survey. Your responses will be treated as strictly confidential. Thank you for your time.

1. If you had it to do over again, do you think that you would participate in the EBCE program?

(Circle one number)

Definitely No 1.........2.........3..........4..........5 Definitely Yes

Why or why not?

2. How well did different parts of the program work? Below is a list of activities in the school program. Please rate each item as to how successful it was in your own experience at the school.

(Circle one number on each line)

	Not at all successful for you				Very successful for you
a. Learning about possible careers	1	2	3	4	5
b. Visiting Resource Organizations	1	2	3	4	5
c. Improving basic skills	1	2	3	4	5
d. Learning about yourself	1	2	3	4	5
e. Going to advisory group meetings	1	2	3	4	5
f. Planning projects	1	2	3	4	5
g. Visiting Resource Persons	1	2	3	4	5
h. Learning subject matter	1	2	3	4	5
i. Managing your own time	1	2	3	4	5
j. Doing resource orientations	1	2	3	4	5
k. Carrying out projects	1	2	3	4	5
l. Learning academic subjects	1	2	3	4	5
m. Meeting with LCs	1	2	3	4	5
n. Visiting Community Resources	1	2	3	4	5
o. Evaluating your own work	1	2	3	4	5
p. Using the resource center	1	2	3	4	5
q. Learning to make decisions	1	2	3	4	5
r. Doing resource explorations	1	2	3	4	5
s. Planning for a future career	1	2	3	4	5

(Circle one number on each line)

	Very little				Very much
3. How much did you like the way of learning (relating study to experience at resource sites) that is used in the EBCE program?	1	2	3	4	5
4. In comparison with your past experiences in regular schools, how motivated were you to learn in the EBCE program?	1	2	3	4	5

5. Is there anything that you would like to have added to the program or taken out of the program?

____

____

____

____

____

____

____

____

____

6. Think back over the past semester and decide on the Resource with whom you spent the most time. Please answer the following questions about this Resource.

a. How much time did you spend at this Resource site?

Less than 5 hours.........1

6-10 hours................2

11-20 hours...............3

21-40 hours...............4

More than 40 hours........5 (How many?_____)

b. How did you spend your time at this Resource site?

(Circle one number on each line)

	No time	Little time (less than 10%)	Some time (10-25%)	Much time (more than 25%)
Planning project and site activities	1	2	3	4
Talking about jobs and careers	1	2	3	4
Observing site activities	1	2	3	4
Participating in site activities	1	2	3	4
Learning job or career skills	1	2	3	4
Learning academic and other subjects	1	2	3	4
Working on project products	1	2	3	4
Talking about personal interests and issues	1	2	3	4
Other activities (Please specify) ______________________	1	2	3	4

(Circle one number on each line)

	Definitely No				Definitely Yes
7. In general, have the persons at the resource sites you've visited been interested in the EBCE program?	1	2	3	4	5
8. Have you had enough choice in deciding what to do at resource sites?	1	2	3	4	5
9. In general, at resource sites, did you get to actually do things, rather than just watch or listen?	1	2	3	4	5

10. Any other comments on the EBCE program?

INSTRUMENT DESCRIPTION

Name of Instrument: Parent Opinion Survey 1977

Developer: Far West Laboratory EBCE Program

Source: Parents of EBCE students.

Purpose: To collect parent opinions as to how much the student gained from the EBCE program, how satisfactory were parent contacts with the school, and how well the program was liked by parent and student.

Instrument Type: Mail questionnaire containing rating scales and two open-ended questions.

Administration: Mailed to all EBCE parents near the end of the school year. The survey is administered by Far West Laboratory with questionnaires being returned directly to the Laboratory. The questionnaire should take no more than 20 minutes to complete.

History: The questionnaire consists of items from previous EBCE-developed questionnaires including some items in common with student end-of-year questionnaires.

Scoring: Most items are keypunched directly. The two open-ended questions require coding or summarizing.

EXPERIENCE-BASED CAREER EDUCATION
FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

PARENT OPINION SURVEY 1977

SCHOOL: ____________________

This questionnaire gives you an opportunity to express your opinions about the Experience-Based Career Education Program (EBCE) in which your son or daughter has been participating. There are no right or wrong answers to the questions; your own opinions will help us to determine how well the program is doing and how to improve it in the future. All responses will be treated confidentially. Thank you for your time.

1. The statements below describe various ways in which the EBCE Program this year may or may not have assisted your son or daughter. Show how you agree or disagree with the following statements:

(circle one number on each line)

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. The school helped in preparing for work	1	2	3	4
b. The school helped in preparing for college	1	2	3	4
c. The school helped in deciding on what to do after high school	1	2	3	4
d. The school helped in self-understanding	1	2	3	4
e. The school helped in getting along better with others	1	2	3	4

2. In your opinion, how much did your son or daughter learn in the EBCE Program this year?

(circle one number on each line)

How much did the student learn in the area of:	Nothing	A Little	Some	A Lot
a. Learning about careers and jobs	1	2	3	4
b. Planning for a career or careers	1	2	3	4
c. Learning job-seeking skills	1	2	3	4
d. Learning how to do a particular job	1	2	3	4
e. Improving reading skills	1	2	3	4
f. Improving writing skills	1	2	3	4
g. Improving math skills	1	2	3	4
h. Improving listening and speaking skills	1	2	3	4
i. Thinking through and solving problems	1	2	3	4
j. Improving skills in working with other students	1	2	3	4
k. Improving skills in working with adults	1	2	3	4
l. Accepting many different ideas and backgrounds of people	1	2	3	4

3. In your opinion, has your son or daughter changed as a result of participation in the EBCE Program? Below are listed several areas where change might occur. Please indicate how you feel your son or daughter may have changed.

(circle one number on each line)

	Much change for the Worse		No Change		Much Change for the Better
a. Interest in school	1	2	3	4	5
b. Motivation to learn	1	2	3	4	5
c. Amount of school work he/she does	1	2	3	4	5
d. Responsibility	1	2	3	4	5
e. Self-confidence	1	2	3	4	5
f. Ability to make decisions	1	2	3	4	5
g. Ability to plan for future	1	2	3	4	5
h. Other (please specify)	1	2	3	4	5

____

____

4. How does the EBCE Program compare with other school programs which your son or daughter has attended?

(circle one number)

Much Worse				Much Better
1	2	3	4	5

5. Compared with previous years how much does your son or daughter talk to you about school experiences?

(circle one number)

Much Less				Much More
1	2	3	4	5

6. What kinds of contacts have you had with the EBCE school staff this year?

(circle one number on each line)

	Never	Once or twice	Three or more times
a. Telephone conversations	1	2	3
b. Individual meetings	1	2	3
c. Group meetings (with other parents)	1	2	3
d. Mailed correspondence-general school information	1	2	3
e. Written reports or correspondence about the performance of your son or daughter	1	2	3
f. Other (please specify)	1	2	3

____

____

(circle one number on each line)

7.	Definitely No				Definitely Yes
a. Do you get all the information you want about your son or daughter's progress and performance in the EBCE Program?	1	2	3	4	5
b. Do you get all the general information you want about the program?	1	2	3	4	5
c. Was the EBCE staff effective in helping your son or daughter plan a learning program suited to his/her needs?	1	2	3	4	5
d. Was the EBCE staff effective in handling any problems that developed with your son or daughter during the school year?	1	2	3	4	5

8. If you had it to do over again, would you want your son or daughter to participate in the EBCE program?

(Circle one number)

Definitely no				Definitely yes
1	2	3	4	5

Why?

9. Any other comments about the EBCE Program?

INSTRUMENT DESCRIPTION

Name of Instrument: Resource Opinion Survey 1977

Developer: Far West Laboratory EBCE Program

Source: Community members serving as resource persons or in resource organizations.

Purpose: To collect information on student activities at resource sites, resource perceptions of the effectiveness of program functioning and their degree of satisfaction with the program.

Instrument Type: Mail questionnaire consisting of rating scales, with one multiple-choice and two open-ended questions. It should require no more than 20 minutes to complete.

Administration: Mailed from Far West Laboratory to particpating resources near the end of the school year. Completed questionnaires are returned directly to the Laboratory.

History: Some items date from a common questionnaire used by all EBCE programs in 1973-74. The instrument was redesigned for the 1975-76 evaluation and has since undergone only slight modification.

Scoring: All items can be keypunched directly from the questionnaire except for a final open-ended question.

EXPERIENCE-BASED CAREER EDUCATION
FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

RESOURCE OPINION SURVEY 1977

SCHOOL: ______________________________

During the current school year, you have been participating in a new educational program -- Experience-Based Career Education (EBCE). Your contributions to students as a Resource have helped to make the program possible. Your perceptions of the program will be valuable to the school with whom you are cooperating as well as the the EBCE developers, Far West Laboratory. We will be very appreciative if you will take a few minutes to fill out this questionnaire and return it directly to Far West Laboratory in the enclosed envelope. All information will be treated confidentially; however, it is not necessary to sign your name. Thank you for your cooperation.

1. When did you join the EBCE Program as a Resource?

(Circle one number)

Spring-Summer-Fall 1975...............1

Winter-Spring 1976....................2

Summer-Fall 1976......................3

Winter-Spring 1977....................4

2. At your site, how many staff persons including yourself have worked with EBCE students during the past year? _______

3. When time contributed by all persons at your site is combined, approximately how many hours per month have been spent by the staff on EBCE activities?

(Circle one number)

One hour or less per month....................................1

2 - 5 hours per month...2

6 - 10 hours per month..3

11 - 15 hours per month.......................................4

16 - 25 hours per month.......................................5

More than 25 hours per month (How many? ____)...............6

4. Has participation in EBCE activities taken more or less time than you originally expected?

(Circle one number)

Definitely Less			Definitely More
1.........	2.........	3.........	4

5. Did you have enough contact with the EBCE staff this year?

(Circle one number)

Definitely No			Definitely Yes
1.........	2.........	3.........	4

6. In general, what did students do at your site? Please circle the number that is the best estimate of the amount of students' time spent in that activity.

(Circle one number on each line)

	No time	Little time (less than 10%)	Some time (10-25%)	Much time (more than 25%)
Planning project and site activities	1	2	3	4
Talking about jobs and careers	1	2	3	4
Observing site activities	1	2	3	4
Participating in site activities	1	2	3	4
Learning job or career skills	1	2	3	4
Learning academic and other subjects	1	2	3	4
Working on project products	1	2	3	4
Talking about personal interests and issues	1	2	3	4
Other activities (Please specify) ______________________________	1	2	3	4

7. Did the student activities that took place at your site fit the original understanding you had of EBCE activities?

(Circle one number)

Definitely No			Definitely Yes
1	2	3	4

8. From your own observation, how much do you feel that your site has been able to offer students in the way of learning experiences?

(Circle one number on each line)

How much opportunity did the students have to learn in the area of:	None	Little	Some	A Lot
a. Learning about careers and jobs	1	2	3	4
b. Planning for a career or careers	1	2	3	4
c. Learning job-seeking skills	1	2	3	4
d. Learning how to do a particular job	1	2	3	4
e. Improving reading skills	1	2	3	4
f. Improving writing skills	1	2	3	4
g. Improving math skills	1	2	3	4
h. Improving listening and speaking skills	1	2	3	4
i. Thinking through and solving problems	1	2	3	4
j. Improving skills in working with other students	1	2	3	4
k. Improving skills in working with adults	1	2	3	4
l. Accepting many different ideas and backgrounds of people	1	2	3	4

9. How satisfactory was your interaction with students?

(Circle one number on each line)

	Never satisfactory	Sometimes satisfactory	Usually satisfactory	Always satisfactory
Student interest in site activities	1	2	3	4
Student behavior at the site	1	2	3	4
Student reliability in keeping commitments	1	2	3	4
Student management of time	1	2	3	4
Student responsibility for own decisions	1	2	3	4
Other (please specify)	1	2	3	4

10. How satisfactory was your relationship with the staff of the EBCE program?

(Circle one number on each line)

	Never satisfactory	Sometimes satisfactory	Usually satisfactory	Always satisfactory
Assistance in planning meaningful student activities	1	2	3	4
Assistance with student problems	1	2	3	4
Feedback on students who completed projects	1	2	3	4
Conversation, correspondence, and visits by staff members	1	2	3	4
Other (please specify)	1	2	3	4

11. How important to you are the following reasons for participating as a Resource in the EBCE program?

(Circle one number on each line)

	Not important	Somewhat important	Important	Very important
Giving students new learning experiences	1	2	3	4
Giving students career information	1	2	3	4
Helping students grow and mature	1	2	3	4
Working with professional school staff	1	2	3	4
Participating in a new community program	1	2	3	4
Increasing community awareness of my organization	1	2	3	4
Increasing my understanding of youth	1	2	3	4
Other (please specify)	1	2	3	4

____

____

12. In terms of your own experiences--weighing costs, benefits, and other contributing factors--how do you feel about participation in the EBCE program:

(Circle one number on each line)

	Undesirable	Somewhat desirable	Desirable	Very desirable
By you	1	2	3	4
By your organization	1	2	3	4
By students in your community	1	2	3	4

13. Do you plan to continue to participate in the EBCE program?

(Circle one number)

Definitely no			Definitely yes
1..........	2...........	3...........	4

14. Would you recommend to other organizations or individuals that they become involved in the EBCE program?

(Circle one number)

Definitely no			Definitely yes
1..........	2...........	3...........	4

15. Any comments that you would like to make on the EBCE program and your role as a Resource.

INSTRUMENT DESCRIPTION

Name of Instrument: End-Of-Year Staff Questionnaire 1977

Developer: Far West Laboratory EBCE Program

Source: Staff of local EBCE programs.

Purpose: To collect staff impressions of the success of the EBCE program, and to determine problem areas in dealing with students and handling program activities.

Instrument Type: Questionnaire consisting of some rating scales and five open-ended questions.

History: First used in 1975-76 and has since undergone minor revisions. One set of rating scales also appears on a student questionnaire. The other set of scales is part of implementation evaluation.

Scoring: Unless there are a large number of respondents, the data can be hand-scored. Most of the questions will require content-analysis or summarization.

EXPERIENCE-BASED CAREER EDUCATION
FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

End-of-Year
STAFF QUESTIONNAIRE

May, 1977

During the current school year you have been participating in a new educational program -- Experience-Based Career Education (EBCE). As a staff member you have extensive knowledge of EBCE as it is operating at your school site. Your perceptions can be of great assistance to others with an interest in EBCE -- school districts, the developers at Far West Laboratory (FWL), and the National Insititute of Education.

This questionnaire has been prepared by FWL to collect information from EBCE staff members. Would you complete it and mail it directly to us using the attached envelope? All responses will be treated confidentially -- your name and the name of your school will not be associated with your responses. Group summaries of the information given by the members of your staff without identification of individuals will be sent to your site if requested.

Our interest is in improving Experience-Based Career Education. Your help is greatly appreciated. Thank you for your time.

Your Name ______________________________

Position ______________________________

School ______________________________

1. Students have been asked to rate the success of the elements of the EBCE program that are listed below. Would you also rate the success of these elements in meeting the needs of the EBCE students?

(circle one number on each line)

Not at all successful ... Very successful

a. Learning about possible careers........1......2......3......4......5

b. Visiting Resource Organizations........1......2......3......4......5

c. Improving basic skills.................1......2......3......4......5

d. Learning about yourself................1......2......3......4......5

e. Going to advisory group meetings.......1......2......3......4......5

f. Planning projects......................1......2......3......4......5

g. Visiting Resource Persons..............1......2......3......4......5

h. Learning subject matter................1......2......3......4......5

i. Managing your own time.................1......2......3......4......5

j. Doing resource orientations............1......2......3......4......5

k. Carrying out projects..................1......2......3......4......5

l. Learning academic subjects.............1......2......3......4......5

m. Meeting with LCs.......................1......2......3......4......5

n. Visiting Community Resources...........1......2......3......4......5

o. Evaluating your own work...............1......2......3......4......5

p. Using the resource center..............1......2......3......4......5

q. Learning to make decisions.............1......2......3......4......5

r. Doing resource explorations............1......2......3......4......5

s. Planning for a future career...........1......2......3......4......5

2. What are some problems that EBCE students have?

   a. Please list the major problems.

   ____
   ____
   ____
   ____
   ____
   ____
   ____
   ____

   b. Which of these problems are the most difficult to deal with?

   ____
   ____
   ____

3. Would you describe some ways you perceive EBCE students to have changed as a result of their school experiences this year?

   a. ____
   ____

   b. ____
   ____

   c. ____
   ____

4. To what extent are you satisfied with your program's operation to date in:

(Circle one number on each line)

	Not at all Satisfied		Somewhat Satisfied		Completely Satisfied
Recruiting New Students	1	2	3	4	5
Orienting New Students	1	2	3	4	5
Assessing Students' Skills at Entry	1	2	3	4	5
Students' Long-term Planning	1	2	3	4	5
Students' Short-term Planning					
Planning Projects	1	2	3	4	5
Planning Supplementary Activities	1	2	3	4	5
Monitoring Students' Progress	1	2	3	4	5
Organizing & Managing the Supplementary Curriculum	1	2	3	4	5
Recruiting Resources	1	2	3	4	5
Preparing Resource Guides	1	2	3	4	5
Preparing Students for Activities with Resources	1	2	3	4	5
Preparing Resources for Activities with Students	1	2	3	4	5
Maintaining Resources	1	2	3	4	5
Using Packages	1	2	3	4	5
Coordinating Staff Responsibilities	1	2	3	4	5
Other (specify): ________________	1	2	3	4	5

____

5. To what extent do you feel your program staff is now prepared for the coming term?

(Circle one number)

Poorly Prepared		Somewhat Prepared		Well Prepared
1	2	3	4	5

6. In what areas is further assistance from FWL most needed?

7. What have you been able to accomplish with students in the EBCE program?

8. Are there other comments you would like to make about the EBCE program this year?

SECTION 2: Description of Other Instruments

INSTRUMENT DESCRIPTION

Name of Instrument: Comprehensive Test of Basic Skills

Developer: Published by California Test Bureau, Division of McGraw-Hill Book Company, Del Monte Research Park, Monterey, CA 93940

Source: Students

Purpose: To test skills in the areas of reading, language, arithmetic, and study skills.

Instrument Type: Multiple-choice. Uses answer sheets

Administration: Pre-post to measure basic skills progress. The EBCE program administered only three of the tests: reading comprehension, arithmetic concepts, and arithmetic applications. 59 minutes are allowed to complete these three tests.

History: See publisher's manual.

Scoring: Machine-scored -- can also be hand-scored.

INSTRUMENT DESCRIPTION

Name of Instrument: Assessment of Career Development

Developer: American College Testing Program, Houghton-Mifflin Company, Boston

Source: Students -- EBCE and other high school students

Purpose: To obtain information needed in developing effective guidance program tailored to student needs and to assess the outcomes of career guidance programs initiated in special projects and studies. Structured around the following components of career development: occupational awareness, self-awareness, and career planning and decision-making.

Instrument Type: Booklet plus answer sheets. All items in multiple-choice format.

Administration: Total time required is three 45-minute periods or one session of 125 minutes

History*: This instrument was designed and developed specifically for program assessment, as opposed to individual student assessment. It has been carefully developed and tested to provide a wide range of information useful in career education program evaluation. The areas and content covered are quite relevant to many, but not all, of the EBCE program purposes. The Handbook Users Guide and Report of Research is very well prepared, and contains a good discussion of the strengths and limitations of the assessment instrument. One of the best features of the Handbook is an Appendix which is well designed to assist potential users in making judgments about the relevance of the content of the instrument to the purposes of a given program.

The available data indicate that the scores reported are sufficiently reliable for group and program evaluation. Most of them are reliable enough to provide useful information for individual student assessment when used in conjunction with other information available for the students. The national normative data were obtained with care, and would be entirely satisfactory for use in studies requiring comparison of EBCE students with national norms samples. Only cross-sectional growth data are available, and there is only one form of the instrument. Thus, data for any study of growth would have to be interpreted with care.

This instrument merits review and consideration, if funds and student time for information collection are available.

---

*Reprinted from the Instrument description appendix in Watkins, R.W., and C.L. Jenks Values and Information . . . An Approach to Evaluation Planning (Far West Laboratory for Educational Research and Development, 1976).

Scoring: Must be scored by the publisher. Group summary reports are provided for 11 scales and 42 critical questions. Individual student reponses are provided for 11 scales and 19 specific questions.

INSTRUMENT DESCRIPTION

Name of Instrument: New Mexico Career Education Test Series --

- NM Career Oriented Activities Checklist
- NM Career Planning Test Forms A and B
- NM Career Development Test

Developer: Charles C. Healy, Stephen P. Klein. Published by Monitor (P.O. Box 2337, Hollywood, California 90028)

Source: EBCE and other students.

Purpose: To obtain information as to whether the student:

- has taken important steps in order to help make an occupational decision
- is able to make appropriate decisions about preparing for and selecting an occupation
- knows and appreciates what is required to hold a job and to be advanced in an occupation.

Instrument Type: Multiple-choice; booklets with answer sheets.

Administration: Each test requires 20 minutes.

History*: One of the major features of these tests is that they were developed to quite specific statements of career education objectives, and the questions in each test are keyed directly to these objectives. The tests will be useful primarily for program evaluation, rather than individual student assessment. . . .The data on the reliability of the tests indicate that most of them provide information accurate enough for assessment of group status; it is not clear how useful they would be for measurement of growth in the variable measured. The normative data provided are based on samples of students from New Mexico schools; although the sampling was done with some care, the limited geographical representation limits the usefulness of such norms in program evaluation studies requiring comparison of EBCE with a national sample of students.

---

*Reprinted from the Instrument Description Appendix in Watkins, R.W., and C.L. Jenks Values and Information . . . An Approach to Evaluation Planning (Far West Laboratory for Educational Research and Development, 1976).

These tests were published at the completion of a quite thorough first stage in the development of "criterion referenced" tests in career education. They appear to have potential value for the measurement of some areas not covered by other tests, and merit review and consideration for this reason.

Scoring: Hand-scoring using a scoring stencil. Could be adapted to machine-scoring.

INSTRUMENT DESCRIPTION

Name of Instrument: Student Attitude Survey

Developer: Research for Better Schools, Inc. (1700 Market Street, Philadelphia, PA 19103)

Source: EBCE and other high school students.

Purpose: To collect information on student attitudes toward school and their learning program, toward careers, andtoward self and others.

Instrument Type: Rating scales; 80 items on consumable test sheet.

Administration: Untimed -- requires about 15-20 minutes.

History: See RBS documents. Developed to provide means of assessing attitudes of students in both experimental and conventional programs.

Scoring: Machine-scored by the developer.

SECTION 3: Implementation Forms Used in Evaluation

RATING OF LEA-ADOPTION CONGRUENCE

LEA: ______________________ DATE: ______________ FILED BY: ______________

Service or Milestone: ______________________________________

	VARIABLE	RATING										
		None 0%	10	Partial 20	30	40	Moderate 50	60	Substantial 70	80	90	Total 100%
1 EDUCATIONAL GOALS	1.1 Career Development											
	1.2 Life Skills											
	1.3 Basic Skills											
		0%	10	20	30	40	50	60	70	80	90	100%
2 RESOURCE POOL	2.1 Diversity											
	2.2 Willing Participants											
	2.3 One-To-One Learning Opportunity											
	2.4 Adaptability Of Site Activities											
	2.5 Involvement In Planning And Evaluating Student Projects											
	2.6 Involvement In Program Decision-Making											
		0%	10	20	30	40	50	60	70	80	90	100%
3 STUDENT-PROGRAM CHARACTERISTICS	3.1 Learning Projects As Core											
	3.2 Use Of External Resources											
	3.3 Project Standards											
	3.4 Supplementary-Learning Design											
	3.5 Peer Interaction In Areas Of Common Interests											
	3.6 Peer Interaction For Career Development											
	3.7 Criteria For Credit											
	3.8 Academic Credit For Projects And Experiences											
		0%	10	20	30	40	50	60	70	80	90	100%
4 STUDENT RESPONSIBILITY	4.1 Long-Term Planning											
	4.2 Setting Of Objectives And Activities											
	4.3 Selecting Content											
	4.4 Setting Performance Methods And Criteria											
	4.5 Selecting Resources											
	4.6 Self-Evaluation											

Instructions: Place an "A" on each scale corresponding to your perception of actual operating congruence with FWL-EBCE. Place a "P" on each scale corresponding to your judgment of planned program congruence with FWL-EBCE. Omit variables for which you have little information.

EXPERIENCE-BASED CAREER EDUCATION
FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

EVALUATION OF PROGRAM IMPLEMENTATION
Form 3: Enrollment Summary

NAME OF EBCE PROGRAM: ______________________________

STAFF MEMBER COMPLETING FORM: ____________________ DATE ______________

TERM: ____________ to ____________

1. Targeted enrollment or ADA for the term: enrollment ______ or ADA ______
2. Number of new applicants before or during the term ______
3. Number of new students selected before or during the term ______
4. Number of continuing students from previous school year ______
5. Total number of students enrolled during the term ______

6. Number of students leaving program during orientation ______
7. Number of later transfers to another school during the term ______
8. Number of students graduating during the term ______
9. Number of students who dropped entirely from high school during the term ______

10. Total of leavers during the term (#6 + #7 + #8 + #9) ______
11. Enrollment at end of the term (#5 - #10) ______
12. ADA for the term ______

13. Number of students graduating at end of the term ______
14. Number of students transferring to another school at end of the term ______
15. Number of students dropping entirely from high school at end of the term ______
16. Total leavers at end of the term (#13 + #14 + #15) ______

17. Total of the term leavers (#10 + #16) ______

18. Targeted enrollment or ADA for next term: enrollment ______ or ADA ______

- -

19. Number of new applicants for next term ______
20. Number of new students selected for next term ______
21. Number of continuing students in next term (#5 - #17) ______
22. Enrollment at beginning of next term (#20 + #21) ______

FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

EVALUATION OF FWL-EBCE FIELD SERVICES
Form 4: Evaluation of Field Services Outcome

SCHOOL SITE ______________________________ DATE ______________

1. To what extent are you satisfied with your program's operation to date in:

	Not at all Satisfied		*Somewhat Satisfied*		*Completely Satisfied*
Recruiting New Students	1	2	3	4	5
Orienting New Students	1	2	3	4	5
Assessing Students' Skills at Entry	1	2	3	4	5
Students' Long-term Planning	1	2	3	4	5
Students' Short-term Planning					
Planning Projects	1	2	3	4	5
Planning Supplementary Activities	1	2	3	4	5
Monitoring Students' Progress	1	2	3	4	5
Organizing & Managing the Supplementary Curriculum	1	2	3	4	5
Recruiting Resources	1	2	3	4	5
Preparing Resource Guides	1	2	3	4	5
Preparing Students for Activities with Resources	1	2	3	4	5
Preparing Resources for Activities with Students	1	2	3	4	5
Maintaining Resources	1	2	3	4	5
Using Packages	1	2	3	4	5
Coordinating Staff Responsibilities	1	2	3	4	5
Other (specify): ______________	1	2	3	4	5

2. To what extent do you feel your program staff is now prepared for the coming term?

Poorly Prepared		*Somewhat Prepared*		*Well Prepared*
1	2	3	4	5

3. In what areas (if any) is further assistance from FWL most needed?

____

____

____

____

Feel free to add any comments you wish on the reverse side of the page. Thank you.

Experience-Based Career Education

RESOURCE POOL REPORT

RESOURCE ANALYST ______________________________ MONTH ______________

1. Number of resources at beginning of period: RPs ___ ROs ___

   Number with Guides: RPs ___ ROs ___

   Number of resources withdrawn ___ Reasons: ______________________________

   ____

   ____

   ____

2. Number of resources recruited: RPs ____ ROs _____
3. Number of resources developed (i.e., with Resource Guides): RPs ____ ROs _____
4. Total number of resources at end of period: RPs ____ ROs _____

   with Guides: RPs ____ ROs ____

5. Breadth of developed resource pool:

   A. Career field* (See Resource Development handbook)

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
	MATH; ENGR; PHYSICS; ARCH	MED & BIO SCIENCE	BUSINESS ADMIN	TEACHING; SOC SCIENCE	HUMAN; LAW; SOC/BHV SCI	FINE/PERF ARTS	TECHNICAL	BUSINESS; SALES	MECHANICS; IND TRADES	CONSTRUCT TRADES	SECRETARIAL; CLERICAL	COMMUNITY/ PUBLIC SERV
RPs												
ROs												

   B. Skill category*

	PROFESSIONAL	SKILLED	UNSKILLED
RPs			
ROs			

   C. Project planning package*

	COMMERCE	COMMUNICATIONS & MEDIA	LIFE SCIENCE	PHYSICAL SCIENCE	SOCIAL SCIENCE
RPs					
ROs					

* *Some resources can be associated with more than one career field, skills category, and/or project planning package.*

FWL-EBCE Rev.1/76

APPENDIX B

Documentation of Data Collection Procedures

FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

September 14, 1976

We have sent you a package containing the following test materials:

1. Student Background Summary (50 copies, for new students only)
2. School Opinion Scales (50 copies, for new students only)
3. Student Attitude Survey (50 copies, for all students. Do not use the first 26 items on the front page -- use the three subtests on the backside of the page.)
4. New Mexico Career Oriented Activities Checklist (50 answer sheets, for new students only)
5. New Mexico Career Planning Test -- Form A (35 booklets, 50 answer sheets, for all students)
6. New Mexico Career Development Test (35 booklets, 50 answer sheets, for all students)

In addition you will find in the package a set of instructions for the administration of the New Mexico tests. These are timed tests and we would like you to follow the instructions for these tests as closely as possible. Especially, be sure to instruct the students to use a Number 2 pencil on all answer sheets for tests in the New Mexico series and for the Student Attitude Survey as well.

The first three instruments (SBS, SOS, and SAS) are not timed. However, in order to assure the reliability of the data, they must be given at the school under staff supervision and under conditions that assure independent responses by the students.

1855 FOLSOM STREET ~ SAN FRANCISCO, CALIFORNIA 94103 ~ (415) 565-3000

I am enclosing a copy of a statement similar to that used last spring to explain the purposes of the testing to the students. This statement was designed to be read to students before the testing sessions, but the topic could be discussed more informally with the students, perhaps during an LC meeting. The students should understand why the information is being collected and that it will be treated confidentially.

It is particularly important this year to standardize testing procedures in order to be able to observe equivalent procedures when testing the comparison group. Also, we will once again have our data collection procedure subject to external audit. We would like some simple documentation for our files as to the actual testing conditions. I will be talking with you further about how we can best accomplish this.

Please contact me if you see any problems about the use of any of these instruments or procedures.

FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

STATEMENT FOR ALL EBCE STUDENTS

Far West Laboratory, developer of the EBCE program, is studying the program to find out how well it is working. The purpose of the testing sessions is to collect information that will help your school staff and other EBCE programs in the future. All questionnaires and tests will be sent directly to Far West Laboratory without being read by school staff members.

The information you give will be treated as confidential by Far West Laboratory; it will be available to you but to no one else. The school will be given summaries showing how the group of EBCE students responded to the questions, but no information that identifies any individual student will be released to the school or school district staff without your permission.

1855 FOLSOM STREET • SAN FRANCISCO, CALIFORNIA 94103 • (415) 565-3000

EXPERIENCE-BASED CAREER EDUCATION
FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

Test Administrator ____________________
School ____________________
Date of Testing Session ____________________
Total Time for Session ____________________

REPORT ON EBCE TESTING SESSION

Describe testing group (number of students, EBCE-Comparison, new-returning, etc.)

List instruments used:

Describe testing conditions:

1. Physical conditions (room, noise level, space per student, etc.)

2. Monitoring (number of monitors, who was involved)

3. Administration of materials (any problems with following directions, etc.)

Describe student behavior (degree of cooperation, degree of concentration on task, presence of any unusual distractions, etc.)

Any other comments or reactions to the testing session:

APPENDIX C

Pacific Horizons Comparison Group B

APPENDIX C

Description Of The In-school Alternative Program Designated In The Evaluation As Pacific Horizons Comparison Group

The Program is a "School-Within-a-School" operating at one of the Stockton high schools. It was instituted in the fall of 1976. The purpose of the program was to provide a different setting for students who had not done well in school, for whatever reason, during their junior high school years. The results were positive and the program will be expanded the 1977-78 school year.

A major goal of the program is to improve students' self-image. Students are gradually worked into basic education, remedial or otherwise. Skilled teachers in many areas of arts and crafts work with small groups of students in creative projects which the students enjoy. During 1976 and 1977 students in the program have developed pride in their program far beyong staff expectations. Their school attendance has imporved remarkably as have their attitudes toward school and faculty.

An excellent staff of teachers "who care" and a team leader who has earned the respect of the students and fellow teachers are considered prime reasons for the success of the program.

There were seven teachers and 150 students in the program during 1976-77. The 75 freshmen took English, Western Civilization, and Motor Skills. The 75 Sophomores took English, Math, and Motor Skills. Three teachers were assigned to each grade level. One more teacher rotated between the two groups; he is an Arts and Crafts specialist.

TABLE 1

COMPARISON OF PACIFIC HORIZONS TENTH-GRADE STUDENTS AND COMPARISON STUDENTS ON TWO CAREER DEVELOPMENT MEASURES

Measure		Pre		Post	
		EBCE Tenth Grade	Comparison Group	EBCE Tenth Grade	Comparison Group
NEW MEXICO CAREER EDUCATION SERIES: Career Oriented Activities Checklist (Sum of score on 25 items, maximum possible = 47)	N	17	27	17	27
	$\bar{X}$	18.9	17.3	23.2	20.3
	SD	7.5	6.1	7.8	6.8
	t value	0.78		1.34	
	Difference in gain score t value	0.61			
STUDENT ATTITUDE SURVEY:					
Subscore: Attitude Toward Career Knowledge (mean item score, 5-point scale)	N	13	21	13	21
	$\bar{X}$	3.52	3.18	3.55	3.54
	SD	.47	.29	.45	.58
	t value	2.65*		0.03	
	Difference in gain score t value	-1.77			
Subscore: Attitude Toward Career Planning (mean item score, 5-point scale)	$\bar{X}$	3.78	3.46	3.99	3.75
	SD	.32	.47	.34	.51
	t value	2.18*		1.50	
	Difference in gain score t value	-0.57			
Total Score: Attitude Toward Careers (mean item score, 5-point scale)	$\bar{X}$	3.65	3.31	3.75	3.64
	SD	.35	.33	.31	.53
	t value	2.79**		0.69	
	Difference in gain score t value	-1.47			

*Significant at the .05 level
**Significant at the .01 level

TABLE 2

STUDENTS' RESPONSES TO COAC ITEMS ON DEVELOPING PLANS FOR THE FUTURE PACIFIC HORIZONS TENTH GRADE AND COMPARISON GROUP

Which of the following is most true of you?	Pre		Post	
	EBCE Tenth N=17	Comparison N=27	EBCE Tenth N=17	Comparison N=27
	%	%	%	%
ITEM A				
I have done several things during my high school career, such as getting counseling or taking different courses, that have helped me decide the kind of occupation I plan to enter after graduating from high school.	24	7	18	11
I have done several things during my high school careers, such as getting counseling and engaging in different kinds of activities, that have helped me decide the type of education I will try to obtain after graduating from high school.	12	30	35	33
BOTH of the above	24	19	18	11
NONE of the above	41	44	29	44
ITEM B				
I plan to go to college or business school or obtain formal vocational training after I graduate from high school.	24	22	35	30
I plan to enter a specific occupation or branch of the armed services after I graduate from high school.	18	22	24	26
I an currently making a choice among two or three alternative plans for what I will do after I graduate from high school.	47	22	29	26
I have not made any plans yet regarding what I will do after I graduate from high school.	12	33	12	19
ITEM C				
I solve problems with school assignments on my own.	24	37	43	38
I ask teachers/parents to help me solve problems with school assignments.	71	44	36	19
I get friends to help me to solve problems with school assignments.	6	4	21	38
I skip over school assignments that are too difficult.	0	15	0	4

TABLE 3

END OF YEAR RESPONSES OF PACIFIC HORIZONS TENTH GRADE AND COMPARISON STUDENTS TO THE ITEM, "NAME THREE WAYS THAT YOU HAVE CHANGED AS A RESULT OF YOUR SCHOOL EXPERIENCES THIS YEAR"

Area of Growth Mentioned	EBCE Tenth Grade N=14		Comparison Group N=24	
	f	%	f	%
Self growth	6	20	17	33
Interpersonal growth	8	27	15	29
Learning/Academic	4	13	9	17
Career Knowledge/Planning	9	30	3	6
No change, Negative change	3	10	8	15

TABLE 4

ATTITUDE TOWARD SELF AND OTHERS, PACIFIC HORIZONS TENTH GRADE AND COMPARISON GROUP

Score	Pre		Post	
	EBCE Tenth	Comparison	EBCE Tenth	Comparison
STUDENT ATTITUDE SURVEY: Attitude Toward Self (mean of item scores)				
N	13	19	13	19
$\overline{X}$	3.72	3.11	3.84	3.43
SD	.45	.55	.48	.37
t value	3.29**		2.72*	
Difference in gain scores t value	-0.94			
STUDENT ATTITUDE SURVEY: Attitude Toward Others (mean of item scores)				
N	13	16	13	16
$\overline{X}$	3.37	3.21	3.57	3.25
SD	.46	.54	.63	.43
t value	0.83		1.60	
Difference in gain scores t value	0.73			

*Significant at the .05 level.
**Significant at the .01 level.

TABLE 5

STUDENTS' SELF-REPORT ON ATTITUDE TOWARD SCHOOL OVER 3 PERIODS OF TIME: PACIFIC HORIZONS 10TH GRADE & COMPARISON GROUP

"How Liked School" 5-point scale: 1=very negative 5=very positive	EBCE Tenth Grade N=16	Comparison Group N=31
T_1: Before Last Year		
$\overline{X}$	3.13	3.55
SD	.81	1.09
t value	-1.37	
T_2: Last Year		
$\overline{X}$	2.94	3.61
SD	1.24	1.23
t value	-1.78	
T_3: This Year		
$\overline{X}$	4.13	3.58
SD	.81	.96
t value	1.94	
Difference in gain score t value		
From T_1 to T_3	2.35*	
From T_2 to T_3	2.98**	

*Significant at the .05 level
**Significant at the .01 level

TABLE 6

STUDENTS' OPINION OF WAYS THAT THEIR SCHOOL WAS HELPFUL, PACIFIC HORIZONS TENTH AND COMPARISON GROUP

Area of Helpfulness 4-point scale: 1=strongly disagree 4=strongly agree		Last Year's Program		This Year's Program	
		EBCE Tenth N=17	Comparison N=30	EBCE Tenth N=17	Comparison N=30
The school helped to prepare me for work	$\overline{X}$	2.06	2.67	2.94	2.87
	SD	1.03	.80	.83	.63
	t value	-2.25*		0.35	
	Difference in gain score t value	2.37*			
The school helped to prepare me for college	$\overline{X}$	2.13	2.57	2.33	2.86
	SD	.99	.84	.90	.45
	t value	-1.54		-2.12*	
	Difference in gain score t value	-0.23			
The school helped me to decide what I want to do after high school	$\overline{X}$	1.93	2.55	3.13	2.69
	SD	.96	.74	.74	.66
	t value	-2.38*		2.02*	
	Difference in gain score t value	3.83**			
The school helped me to better understand myself	$\overline{X}$	2.00	2.64	2.93	2.71
	SD	1.00	.78	.88	.53
	t value	-2.33*		0.88	
	Difference in gain score t value	2.64*			
The school helped me to get along better with others	$\overline{X}$	2.27	2.69	3.00	2.86
	SD	1.16	.81	.85	.52
	t value	-1.41		0.58	
	Difference in gain score t value	1.45			

*Significant at the .05 level
**Significant at the .01 level

TABLE 7

RATINGS OF LEARNING BY PACIFIC HORIZONS TENTH-GRADE STUDENTS AND COMPARISON STUDENTS IN THE AREA OF CAREER DEVELOPMENT/ AWARENESS, PERSONAL & INTERPERSONAL SKILLS, AND BASIC SKILLS

Item	Tenth-Grade EBCE N=17		Comparison N=32		t value
	$\overline{X}$	SD	$\overline{X}$	SD	
CAREER DEVELOPMENT AWARENESS					
Learning about careers and jobs	3.71	.47	2.56	1.01	5.38**
Learning how to do a particular job	3.19	1.11	1.97	.74	3.98**
Planning for a career or careers	3.47	.62	2.28	.85	5.07**
Learning job-seeking skills	3.24	.90	2.30	.92	3.38**
PERSONAL AND INTERPERSONAL SKILLS					
Improving skills in working with adults	3.12	1.05	2.77	.99	1.12
Accepting many different ideas and backgrounds of people	2.94	1.14	2.63	1.04	.98
Thinking through and solving problems	2.71	.92	2.88	.83	-0.65
Improving listening and speaking skills	2.53	1.13	2.75	.92	-0.70
Improving skills in working with other students	2.53	1.01	3.03	.84	-1.85
BASIC SKILLS					
Improving writing skills	2.65	1.17	2.52	1.15	0.37
Improving reading skills	2.82	1.24	2.78	.94	0.13
Improving math skills	2.50	.89	3.09	.96	-2.06*

*Significant at the .05 level
**Significant at the .01 level

TABLE 8

RESPONSES OF EBCE TENTH GRADE STUDENTS AND COMPARISON STUDENTS ON SCHOOL OPINION SCALES

Scale		Pre		Post	
		EBCE Tenth N=15	Comparison N=32	EBCE Tenth N=15	Comparison N=32
A. Student Learning Autonomy (mean for 10 items)	$\overline{X}$	3.44	3.47	4.13	3.53
	SD	.76	.31	.49	.58
	t value	0.19		3.43**	
	Difference in gain score t value	3.21**			
B. Long-Term Attitude Toward School (mean for 6 items)	$\overline{X}$	3.52	3.46	3.83	3.47
	SD	.90	.56	.77	.65
	t value	0.23		1. 9	
	Difference in gain score t value	1.29			
C. Attitude Toward Peers (mean for 6 items)	$\overline{X}$	3.42	3.61	4.13	3.62
	SD	.76	.36	.46	.58
	t value	-0.94		3.03**	
	Difference in gain score t value	3.43**			
D. Attitude Toward Staff (mean for 8 items)	$\overline{X}$	3.01	3.11	3.78	3.12
	SD	.93	.44	.55	.55
	t value	-0.39		3.79**	
	Difference in gain score t value	3.28**			
TOTAL (mean for 30 items)	$\overline{X}$	3.34	3.40	3.98	3.43
	SD	.68	.29	.47	.52
	t value	-0.34		3.47**	
	Difference in gain score t value	3.78**			

TABLE 9

PRE AND POST SCORES OF GROUPS ON THE READING COMPREHENSION, ARITHMETIC CONCEPTS, & ARITHMETIC APPLICATIONS SUBTESTS OF THE CTBS -- PACIFIC HORIZONS TENTH AND COMPARISON GROUP

CTBS Scale Scores		Pre		Post	
		EBCE Tenth N=15	Comparison N=15	EBCE Tenth N=15	Comparison N=15
READING COMPREHENSION	$\overline{X}$	558.8	470.1	586.7	480.3
	SD	83.9	58.0	87.0	55.8
	t value	3.37**		3.99**	
	Difference in gain score t value	0.74			
ARITHMETIC CONCEPTS	$\overline{X}$	479.7	460.8	542.1	493.3
	SD	101.2	63.1	82.3	64.6
	t value	0.61		1.81	
	Difference in gain score t value	0.85			
ARITHMETIC APPLICATIONS	$\overline{X}$	535.5	425.9	541.5	445.0
	SD	105.4	54.6	95.8	62.8
	t value	3.52**		3.10**	
	Difference in gain score t value	0.44			

**Significant at the .01 level

APPENDIX D

Post-Graduation Planning of Students

TABLE 1

STUDENTS' PLANS FOR FIVE YEARS AFTER HIGH SCHOOL

Item	Pre				Post			
	Experimental		Control		Experimental		Control	
	f	%	f	%	f	%	f	%
Highland EBCE								
1. Go to school, or mostly go to school but also work	5	23	7	30	10	45	6	27
2. Work, or mostly work but also go to school	17	77	17	70	12	55	16	73
Pacific Horizons								
1. Go to school, or mostly go to school but also work	4	20	6	26	4	20	6	26
2. Work, or mostly work but also go to school	16	80	17	74	16	80	17	74
Edison EBCE								
1. Go to school, or mostly go to school but also work	4	21	3	18	4	20	7	39
2. Work, or mostly work but also go to school	15	79	14	82	16	80	11	61

TABLE 2

TYPE OF EDUCATION PLANNED FOR ONE YEAR AFTER HIGH SCHOOL

Source	Data	Pre				Post			
		Experimental		Control		Experimental		Control	
		f	%	f	%	f	%	f	%
Highland	None	2	8	2	7	6	24	4	14
	Vocational	14	56	11	39	6	24	9	32
	Academic	8	32	15	54	11	44	14	50
	Other Education	1	4	0	0	2	8	1	4
	$\overline{X}$ (ommitting other)	3.7		4.50		3.78		4.37	
	SD	1.73		1.67		2.26		1.86	
	t Value	-1.68				-1.01			
Pacific Horizons	None	2	7	2	7	7	25	2	7
	Vocational	14	50	9	32	7	25	17	61
	Academic	12	43	13	46	13	46	8	28
	Other Education	0	0	4	14	1	4	1	4
	$\overline{X}$ (omitting other)	3.79		4.42		3.67		3.85	
	SD	1.75		1.74		1.94		1.43	
	t Value	-1.30				-0.40			
Edison	None	1	5	2	9	3	15	1	5
	Vocational	10	50	4	18	8	30	4	18
	Academic	9	45	16	63	7	35	16	72
	Other Education	0	0	0	0	2	10	1	5
	$\overline{X}$ (omitting other)	3.80		4.82		3.72		4.81	
	SD	1.77		1.56		1.87		1.50	
	t Value	-1.98				-2.01			

TABLE 3

STUDENT RESPONSES TO ADDITIONAL COAC ITEMS ON PLANS FOR THE FUTURE

Item	Pacific Horizons				Edison EBCE			
	Pre		Post		Pre		Post	
	Experi-mental N=27	Control N=27	Experi-mental N=26	Control N=27	Experi-mental N=23	Control N=21	Experi-mental N=23	Control N=21
	%	%	%	%	%	%	%	%
ITEM A								
My parents will make the decision about whether I go to college.	0.0	14.8	0.0	3.7	4.4	0.0	0.0	9.5
My decision to work or continue my schooling after high school will depend upon what my friends do.	7.4	0.0	0.0	14.8	4.4	0.0	4.4	0.0
I have obtained information about jobs and college so that I can decide what to do.	92.6	63.0	84.6	77.8	91.3	90.5	95.7	90.5
I am not concerned about college or work and will take whatever is available after I graduate.	0.0	22.2	15.4	3.7	0.0	9.5	0.0	0.0
ITEM B								
I choose courses which do not require much work.	3.7	18.5	11.1	7.4	0.0	9.5	0.0	19.1
I choose my elective courses so that I can be with friends.	7.4	0.0	3.7	0.0	8.7	4.8	0.0	0.0
I choose electives to find out more about my interests and abilities.	88.9	77.8	77.8	85.2	91.3	76.2	95.7	81.0
I choose electives in which it is easy to earn high grades.	0.0	3.7	7.4	7.4	0.0	9.5	4.4	0.0
ITEM C								
During the past year, I have decided how many more years I want to stay in school before getting a full-time job.	25.9	14.8	22.2	22.2	21.7	19.1	26.1	28.6
During the past year, I have decided whether to go to college, into the Armed Forces, into a job, or into a job training program.	40.7	25.9	25.9	33.3	30.4	23.8	21.7	19.1
I have done both of the above.	22.2	22.2	37.0	29.6	26.1	33.3	26.1	42.9
I have done none of the above.	11.1	37.0	14.8	14.8	21.7	23.8	26.1	9.5
ITEM D								
During the past year, I have decided upon a specific training program to enter after high school.	7.4	14.8	19.2	18.5	13.0	9.5	13.0	9.5
During the past year, I have decided upon a specific occupation to enter after completing high school.	29.6	18.5	26.9	22.2	39.1	28.6	30.4	23.8
I have done both of the above.	29.6	7.4	15.4	14.8	30.4	9.5	26.1	33.3
I have done none of the above.	33.3	59.3	38.5	44.4	17.4	52.4	30.4	33.3
ITEM E								
During the past year, I have made decisions regarding whether or not to enter an occupation in which I can find work in my community.	33.3	18.5	28.0	14.8	9.1	9.5	8.7	14.3
During the past year, I have made decisions regarding whether or not to work full time before getting any more education.	3.7	22.2	4.0	11.1	18.2	9.5	17.4	33.3
I have done both of the above.	25.9	14.8	24.0	22.2	36.4	33.3	34.8	28.6
I have done none of the above.	37.0	44.4	44.0	51.9	36.4	47.6	39.1	23.8